A Consolidation of
FIRE AND WATER ENGINEERING *and* THE FIRE ENGINEER

JUNE 25, 1926

Every Fire Department
needs this greatest of all weapons for fighting oil fires—

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SHOWING the Amdyco Foam Generator in operation. Water comes in one line (under regular pumper or hydrant pressure, and using the regular 2½" hose) mixes with the Amdyco Foam Powder that is fed into the hopper as demonstrated above, and goes out the other line as a foam stream.

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FOAM POWDER
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FOAM GENERATOR

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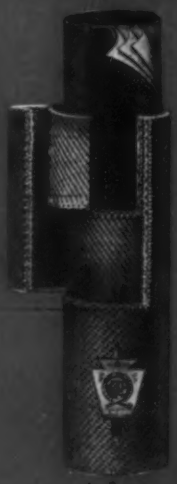
"Better Foam in Better Form"

An Unusual Advertisement
—worth reading.

An Unusual Hose
—worth using.

FIRE HOSE

MADE LIKE AN AUTOMOBILE TIRE
IN TWO PARTS INNER TUBE *and* OUTER JACKET



"Fabric" Features:

Separable Inner Tube

—lasts longer than same quality tube cemented to the fabric because it is in complete repose when hose is not in service.

Will Not Slide or Buckle

—the diameter of the tube is reinforced in such a way as to eliminate it.

"Fabric" Features:

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The strands are "cabled" by a new process. The Durability of Fabric Hose is phenomenal.

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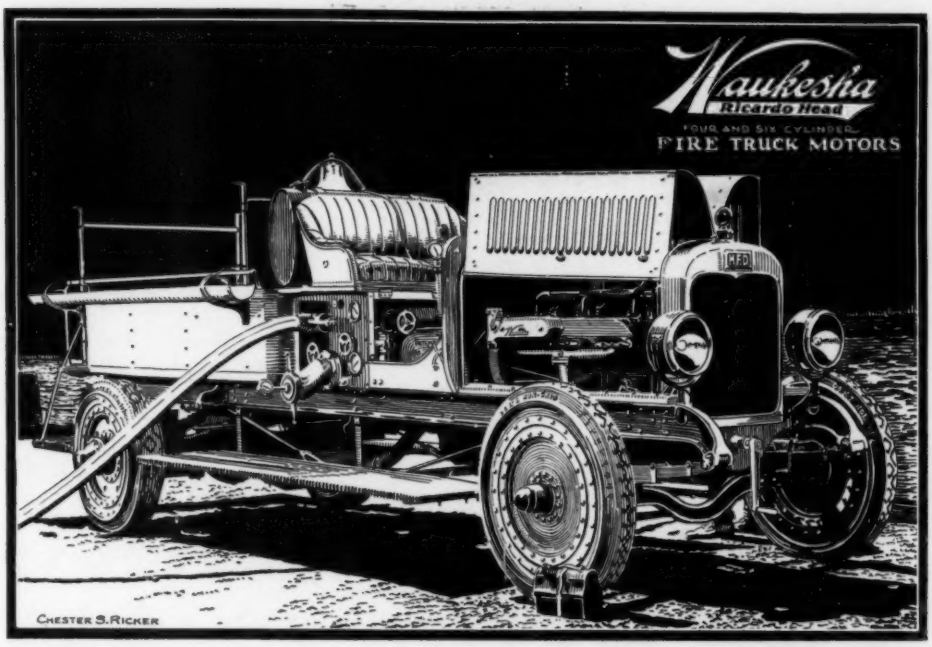
NEW YORK

HOSE facts of interest to every buyer of fire hose will be found in the interesting illustrated booklet issued by the Fabric Fire Hose Co., New York, telling not only why Fabric Wax and Para Gum Treated Loose Inner Tube Fire Hose is the most practical and efficient hose for you to use, but explaining the actual details of its manufacture so that you know just what you are buying and why it is superior. Write for it—Fabric Fire Hose Co., 127 Duane St., New York.

Waukesha Engined Milwaukee Pumper during Underwriter's Tests



Passes Underwriters' Tests

First Milwaukee built pumper, constructed under the direction of Wm. Striebel, Master Mechanic of the Department, passed the Underwriter's tests successfully. The hardest part of the test was the six-hour run during which 764.5 G. P. M., at 126.6 pounds net pressure, were pumped thru two 100 foot, 2½ inch C. R. L. hose siamesed into deluge set with 1¾ inch tip. During the entire test water was lifted 10 foot 1 inch from the river.

A standard 4½ x 5¾-inch six cylinder Waukesha "Ricardo Head" engine was used. These engines are unusually rugged in construction, have large bearings; Duplex "Fresh Oil" lubricating system; "Girder" type crankcase and "Dynamic Thermostat." We would be pleased to send you full information descriptive of this test, the six cylinder engine and also the "Dynamic Thermostat" a feature of all Waukesha "Ricardo Head" engines.

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Waukesha Wisconsin

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The Journal of the Fire Protection Profession Since 1877

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

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A Little Misunderstanding

"I'M hurt," wrote a reader recently. "I'm hurt because for a long while I have been trying to get around to telling you what a wonderful paper FIRE ENGINEERING is in its new form and what a great help it has been to me in my work."

¶ "When my subscription came due last week I was just getting set to write a letter to send along with my subscription payment, when lo and behold on the bottom of your bill my eyes struck this: 'You needn't bother writing a letter—just return this bill with remittance folded inside.' Gosh, but that did hurt. It surely put a damper on me."

¶ Holy mackerel, man that's the last thing in the world we ever intended! Around this office, letters from our subscribers, whether knocks or boosts, get a more enthusiastic welcome than our weekly salary checks—and that's saying something, brother!

¶ The notation was put on the bill only with the idea of making it easier for those of our readers who either haven't time or don't like to write letters—and, you know, there are a deuce of a lot of people like that.

¶ Nothing would tickle us more than to have all you folks write us more or less regularly, telling us frankly what you like and what you don't like about FIRE ENGINEERING. We love to hear from our good friends as often as they can find time to write—and that means *you!*

The Publishers

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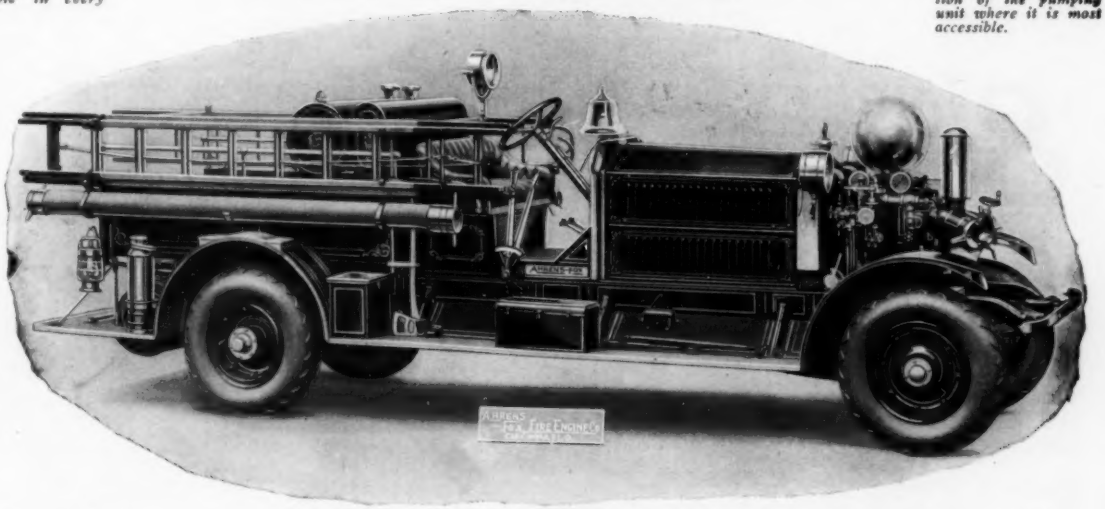
Entered as second class matter at the Post Office, Albany, N. Y. January 29, 1926 under the Act of March 3, 1879.

New Ahrens-Fox pumper — Complete, up-to-date, thoroughly dependable in every detail.

"Nothing is too good for fire service, and nothing but the best will do."—Ahrens-Fox.

Note the balanced and sturdy construction and the practical position of the pumping unit where it is most accessible.



Modern Ahrens-Fox Apparatus

with twin pumping plant and super-powered fire apparatus motor is the standard of quality

Fire officials throughout the country who are alive to their public responsibilities invariably place quality—efficiency and dependability—above price and every other consideration in the selection of apparatus.

When the lives of their fellow-citizens, and their children, to say nothing of property valued at hundreds of thousands of dollars, are dependent for safety against fire upon the perfect operation of their equipment in every emergency, the selection of apparatus other than the best money can buy is unpardonable folly.

Fortunately, fire chiefs, commissioners, and other municipal officials who have the say-so in the purchase of fire department equipment are more and more coming to realize this fact, and are giving the selection of apparatus the careful consideration the work deserves.

Almost as naturally as day follows the night many of these up-to-date officials turn to Ahrens-Fox apparatus as the standard of quality in the comparison of the relative merits of apparatus of various manufacture.

There can be no question but that this recognition of Ahrens-Fox supremacy is justified by the facts. The service records of Ahrens-Fox apparatus in use everywhere back up their high regard to the limit. Ahrens-Fox performance and supremacy are made possible by the painstaking investigations and thoroughly practical work of Ahrens-Fox fire apparatus engineers who have devoted their lives to this work, by the use of only the finest materials obtainable, by modern manufacturing machinery, and by the employment of especially highly skilled workmen.

To all fire officials we shall be glad to send complete information on request. No obligation, we just want you to have the facts. A postal with name and address will do.

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"Builders of Quality Fire Apparatus"

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THE BICKLE FIRE ENGINE CO.,
Woodstock, Ontario

8 years without a bad call!

When the fire chief of a city of over 200,000 with a signal system of 350 boxes and 20 circuits says he has never had a bad call in eight years, you may know he has a real, trouble-proof system thruout.

While such a statement was made by a fire chief about a GARL outfit recently—it is not an unusual record—for GARL equipment.

Simplicity of construction, operation and maintenance of Fire Alarm and Police Signal Systems is the greatest insurance any city can have against a confusion of alarms. Confused or broken signals may lead to costly catastrophe.

The less any signal system calls for constant watching and adjustment, the more reliable it is. This is the basic idea of the exclusive GARL patents, behind the GARL signal systems.

So freedom from confusion or complication from cross-signals can be added to these other GARL advantages—

Simplicity of construction gives low first cost and insignificant maintenance expense.

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The GARL proposition is meeting with approval on many city and industrial jobs that have been under consideration. Possibly GARL will enable you to get the fire or police signals you require NOW.

Let us know what's up. Send us requests for quotations.

GARL SIGNAL boxes are of attractive design and distinctly storm-proof

Note the simplicity of internal construction. Nothing to get out of order or to confuse the laymen.

THE GARL SIGNAL COMPANY

Akron, Ohio

A RELIABLE FIRE ALARM SYSTEM MEANS LOWER FIRE LOSSES

They too
–thought it would never happen

THE cold figures of a fire loss chart are apt to mean little to the man whose house "has never burned down."

But an *increasing* number of home owners are finding that behind those figures lies a real threat, for in ten years our annual national fire loss has swelled from $220,000,000 to nearly $550,000,000.

Fire authorities agree that the inflammable roof is a tremendous fire hazard, responsible not only for occasional fire but often for the wiping out of whole city areas.

Johns-Manville Asbestos Shingles and Roofings will protect your home and business from the menace of roof-communicated fire. Made of indestructible rock fibre, they combine fire safety with a permanence that defies weather and time, making them far lower in cost per year than most roofings of lesser fire resistance.

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SOMETHING TO REMEMBER *until you have a*—

JOHNS-MANVILLE
ASBESTOS ROOF

What Kind of Asbestos Roofing?
This chart will help you decide

Kind of Building	Type of Asbestos Roofing	Brand or Trade Name
Small buildings	Individual asbestos shingles	Underlay roofing No. 10 rigid asbestos shingles—appropriate colors
Residences $5,000–$7,500	Hexagonal asbestos shingles	No. 10 rigid asbestos shingles—appropriate colors
Residences $7,500–$10,000	Hexagonal or octagonal asbestos shingles	No. 10 rigid asbestos shingles or individual shingles—appropriate colors
Residences $10,000 upwards	Rigid asbestos shingles—or shingles	Rough texture—Five-individual shingles—Individual shingles—Individual roof or gray asbestos
Factories, shops and mills—usually not adjacent to other buildings	Asbestos-built-roofing of asbestos built-up roofing	Johns-Manville Asbestos Ready Roofing or Asbestos Built-up Roofing
Fire traffic—all buildings	Asbestos built-up roofing	Johns-Manville Asbestos Ready Roofing
Exposed frame buildings—unprotected openings, windows, transoms or ventilators	Corrugated asbestos roofing	Johns-Manville Transite Corrugated Asbestos Roofing and Siding

* Note—Industrial buildings call for expert advice. A roofing expert is available at all Johns-Manville Branches.

Re-roof for the last time

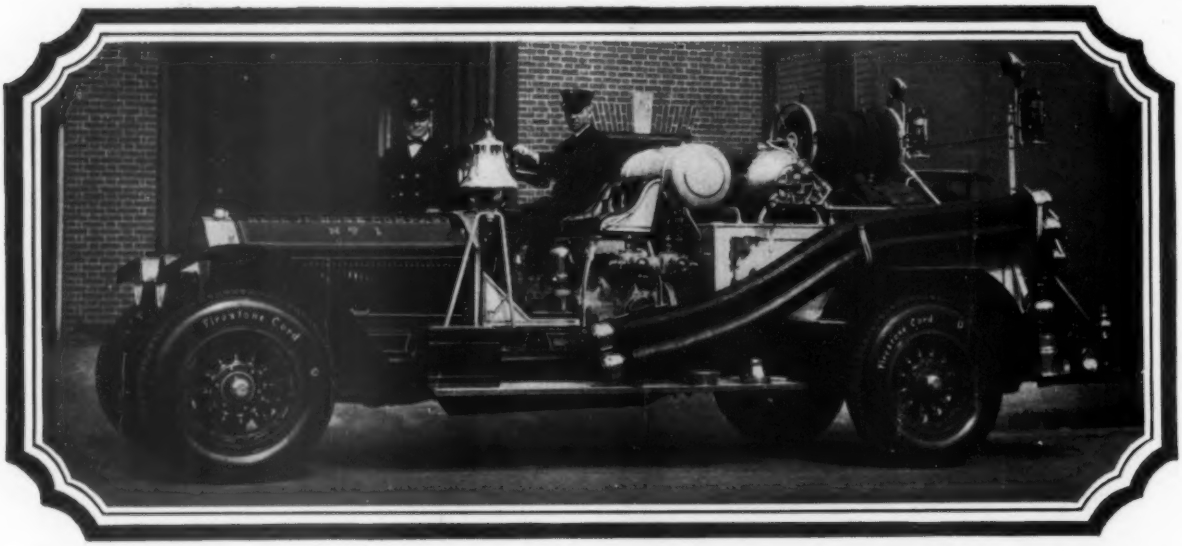
When re-roofing an old house, you can by either be required to re-roofing asbestos shingles right over the old roof. This saves money of the old shingles which remain in place to insulate your house against heat and cold.

Crude Asbestos as it comes from the mine.

Johns-Manville Asbestos
INSULATION
BRAKE LININGS
ROOFINGS
PACKINGS
CEMENTS
and other products

Something for them to remember until they get a fire-safe roof

AMERICANS SHOULD PRODUCE THEIR OWN RUBBER . . Harvey S. Firestone



"Maximum Safety and Dependability"

"After having five years' experience with Pneumatics of different makes on our fire apparatus, I do not hesitate to call the attention of those departments considering pneumatic tires for their apparatus to the advantage of the Firestone Gum-Dipped Pneumatic.

"First, the maximum safety and dependability; second, the very low pressure loss while standing in quarters; third, the very low pressure built up in hot weather when called out on long runs. In going into pneumatic tires for fire apparatus I think these three items are very essential for Fire Departments to consider."

Jesse A. Fisher, Chief Annapolis Fire Dept., Annapolis, Md.

Greater Non-Skid protection under all weather conditions is provided by the many specially Firestone designed traction edges and extra depth of tread — giving unfailing service at every speed and utmost driving control on all roads.

The extra Firestone Gum-Dipping process insulates every fiber of every cord with rubber, minimizing destructive friction and building greater security and endurance in these big pneumatics. The special Firestone Steam-Welding process makes Firestone Tubes an endless air-tight unit, adding still further to Firestone safety and dependability.

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The Mark of Quality

Firestone

Heavy Duty Pneumatics for Fire Apparatus

A Nation-Wide Service for Better Protection Against Fire Loss and Water Damage

A.D.T. Fire Protective Services

are recognized and approved by the National Board of Fire Underwriters as a nation-wide institution cooperating with municipal and industrial fire officials in the reduction of life and property losses from fire.

The remarkably efficient A. D. T. System of Central Station Night Watch and Fire Alarm Service has played a large part in helping to cut down the fire loss of the country; and the A. D. T. System of Sprinkler Supervisory Service has been instrumental in saving millions of dollars in water damage.

An Invaluable Service

It is generally known that water damage in sprinklered premises, due to heads releasing for any one of a variety of reasons, is considerably greater than fire damage, and it is a fact that in a great majority of sprinklered equipments no one on the premises knows how to shut off the water. Hence, the great importance and value of our Supervisory Service in not only recording water flows, but immediately sending representatives who know how to stop them.

Over $20,000,000,000

worth of property throughout the country is protected by A. D. T. services, and fire officials in cities everywhere are finding A. D. T. cooperation an invaluable aid in their work.

Every municipal or industrial official having anything to do with fire prevention or protection owes it to his city or company to get the facts about A. D. T. Fire Protection Services for careful consideration.

Send for Complete Information?

CONTROLLED COMPANIES

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New York City

What Do You Want in a Rotary Pump?

If you were to build a rotary pump according to your specifications you would no doubt include the following features:

Correct hydraulic principle,
Absence of vibration and noise,
Long wearing qualities,
Highest grade materials and workmanship,
Ease of adjustment and repair,
Compactness and simplicity,
Adjustment at all points of wear,
High factor of safety.

If these features are what you want, then the Waterous is made to order for you.

You owe it to yourself to know the best.

Complete information gladly furnished.

WATEROUS FIRE ENGINE WORKS
INCORPORATED

Saint Paul, Minnesota

Also Manufacturers of the "Waterous" Fire Hydrant

Waterous
Dependable

FIRE ENGINEERING

(A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER)

The Leading Journal of the Fire Protection Profession

VOLUME LXXIX JUNE 25, 1926 NUMBER 12

Guarding the Sesqui-Centennial from Fire

International Exposition Has Two Companies and Stations—High Pressure Mains Specially Laid in Grounds—City Department Called When Needed

By WILLIAM SIMMLER, Chief Sesqui-Centennial Exposition Fire Department, Philadelphia

THE following article, written by the man responsible for the safety from fire of the great International Exposition, shows with what care the grounds and buildings are guarded. The chief, officers, and members of the Sesqui-Centennial Fire Department are loaned for the term of the exposition from the Philadelphia Fire Department.

The buildings of the Sesqui-Centennial other than a few of the permanent type are of the usual exposition construction; they being of iron fabricated column and truss supports covered by wire lath, plaster and stucco. The average interior height of the larger buildings is about 50 feet, towers, etc., on the exterior being about 80 to 100 feet high.

Sesqui-Centennial Fire Department

There are two regular duty fire companies of the American-LaFrance type stationed in good locations inside the exposition grounds, having full complements of men and officers, on duty in 24-hour shifts, completely equipped as for regular city service.

City Department to be Called on First Alarm

No chances are being taken with fire; unless the fire is under absolute visible control on arrival of the company, the nearest signal box will be pulled, which will bring to any box within the Sesqui-Centennial area four first class motorized pumping engines and their combination cars of the city fire department, and one 85-foot truck; also two chief officers, making a total of six pumpers, six combination cars, one truck and three chief officers on the first alarm assignment. All succeeding alarms up to the sixth would respond with four pumpers, four combination cars and one truck and a chief officer. On the second alarm the chief and the deputy chief would also respond.

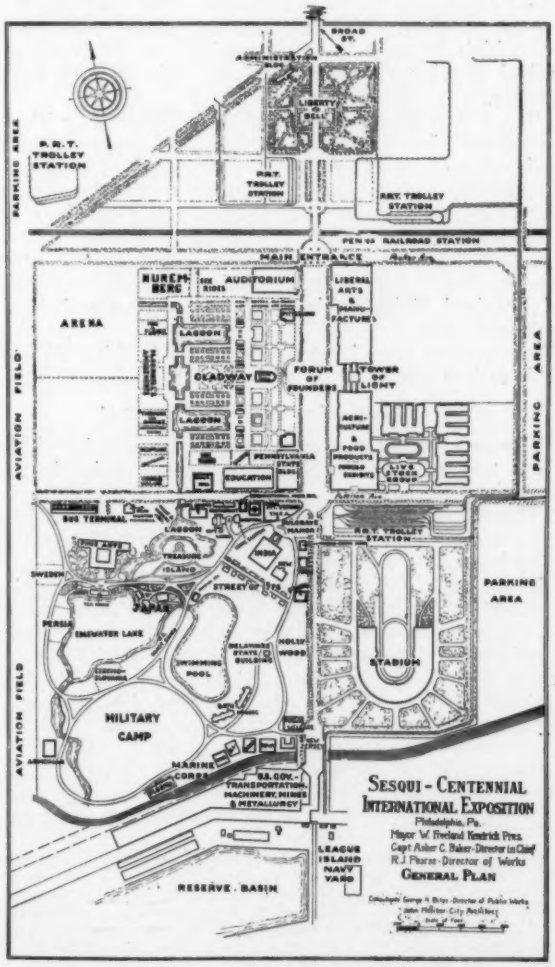
Low and High Pressure Mains

The low pressure fire mains are hooked up within the grounds from three different points of the city's service, namely at 10th Street, Broad Street and at 20th Street. These mains are from 36″ to 48″.

Passing down Broad Street the entire length of the grounds are two 12″ low-pressure mains, and a complete circuit of the grounds is made with a 12″ main, to which are attached many low pressure hydrants; also east and west through Pattison Avenue.

The High pressure fire mains are especially laid for the exposition, having the regular Smith type high pressure hydrant, with 2-outlets, located about 250 feet apart, they being 87 in number. There are 6750 feet of 12″ and 16,550 feet of 8″ pipe to supply the 87 high pressure hydrants. There are two high pressure pumping stations. No. 1 is located in the Gladway section having a 3000 g.p.m. capacity make up, with one 1500 g.p.m., one 1000 g.p.m. and one 500 g.p.m. electrically driven pumps, taking a 24″ suction from the lagoon, with tide water from reaches into the Delaware River.

Station No. 2 has two 1000 g.p.m. gasoline engine driven pumps, taking water from a bathing lake, sup-



plied with water from controlled wells, this bathing lake having a continuous supply of approximately 15,000,000 gallons, which can be supplied with raw tide water from a dam separating it from a reach of the Delaware River. Signal box instruments are in station and on receipt of an alarm of fire 100 lbs. pressure is immediately built up and maintained until otherwise ordered.

Forty Signal Fire Boxes to Be Provided

There are approximately to be 40 signal boxes in all the 6100 numbers, no 6100 numbers being in any other part of the city. They are laid out in zones, Zone No. 1 being the entire length of Broad Street with boxes from 6112 to 6129; Zone 2, from Pattison to Oregon Avenues and west of Broad Street, boxes 6131 to 6139; Zone 3, Pattison Avenue to Oregon Avenue east of Broad Street boxes 6141 to 6149; Zone 4, from Pattison Avenue to Navy Yard, boxes 6151 to 6159, west of Broad Street; Zone 5, Pattison Avenue east of Broad Street to Navy Yard, boxes 6162 to 6167.

Fire Stations Fully Equipped

The two fire stations are fully equipped with tape recording instruments, and all signal boxes in the 6100's are directly transmitted to the stations at the same time going into the cities electrical bureau for transmission throughout the city.

Hydrants and Fire Extinguishers

High pressure hydrants are located close to every important building, which buildings have direct connections from high pressure to the standpipes, to which are attached regular cotton unlined 1½" hose with open nozzles.

There are 40-gal. soda and acid fire extinguishers well placed in all buildings and 2½-gal. soda and acid extinguishers in large numbers are in all of the buildings. One quart carbon tetrachloride extinguishers are in almost every exhibitor's booth and scattered about in great numbers.

The military camp has within its area seven low pressure hydrants, two 40-gal. chemical engines, two reels of standard Philadelphia 2½" hose and one 2½-gal. soda and acid extinguisher to every 25 square feet. There are ten mess houses well supplied with soda and acid, carbon tetrachloride extinguishers and sand pails.

Fire Companies Centrally Located

The two fire companies are located so as to be within about two minutes run from almost any point in the grounds.

The special 360 Centennial Guards are instructed to call the companies for the slightest fire first, then assist in extinguishing the fire.

There are 30 city firemen constantly patrolling the grounds and buildings, at all hours under the command of Captains Clinton and Owens, from the fire prevention bureau. No automobiles other than official cars or trucks with loads are permitted in the grounds. The sanitary division is always gathering rubbish accumulations, both day and night.

Norristown, Pa., to Purchase Apparatus—Acting on the recommendations of Chief Peter V. Hoy, the city purchased a Seagrave combination chemical and hose car with two forty-gallon chemical tanks.

Middletown, Conn., Chief Has Long Service—George S. Pitt, chief of Middletown, Conn., and the oldest fire chief in Connecticut in point of service, rounded out thirty years as head of the fire department. He joined the fire department on September 1, 1877 and in 1896 was made chief of the department. The department consists of 160 volunteers divided into four companies. The city is protected by a 29-box fire alarm system.

CHIEF LOUIS BEHRENS HONORED ON 50TH YEAR OF ACTIVE SERVICE

Receives Diamond Badge from Fire Department—Handsome Gifts from City Officials—His Long Career

CHIEF LOUIS BEHRENS, head of the Charleston, S. C., Fire Department, and since its organization in 1905, president of the South Carolina State Firemen's Association, celebrated on June 10th the fiftieth anniversary of his joining the city's fire-fighting forces. The veteran chief was the recipient of hundreds of congratulations from Charleston's citizens, and was kept busy all day long responding to personal messages of felicitation and handshakes from his hosts of friends in official and civic circles.

Chief Louis Behrens, Charleston, S. C.

A more concrete form of appreciation, however, came from his comrades in the fire department. Chief Behrens on the morning of June 10 was called to the Central station upon the pretext of urgent business. On his arrival, he found department members had gathered along with the mayor and firemasters. Assistant Chief Wohlers asked Dr. Joel W. Frampton, chairman of the board of firemasters, to escort the chief to the front, where the Assistant Chief presented him with a handsome gold chief's badge, with the figures "50" set in 37 diamonds. On the reverse of the badge is this inscription: "Presented to Chief Louis Behrens by his comrades of the fire department, June 10th, 1926. A tribute to our leader." An illustration of the badge is shown herewith.

Badge Presented to Chief Behrens by Charleston Fire Department.

Following this presentation, the chief was handed a pair of diamond, platinum and gold link buttons from Mayor Stoney, and a diamond stick pin from the city council and the board of firemasters.

Chief Behrens joined the volunteer Hook and Ladder Company No. 2, of Charleston, on June 10, 1876, at the age of 16 years, while serving an apprenticeship as a cabinetmaker. Two years later he became affiliated with the German fire engine company and when the city organized its first paid department in December, 1881, he joined it as a callman, being assigned to Engine No. 1, and becoming foreman in 1886. He was appointed assistant chief in 1898, and became chief in 1907, succeeding the late Chief O. G. Marienhoff. In 1900 Assistant Chief Behrens went to New York where he served in the New York's fire department for a month, returning to found the local school for firemen.

Chief Behrens is a native of Charleston, having been born in that city in 1860, sixty-six years ago. The chief is in vigorous physical condition in spite of his years, and takes his turn in riding to fires and performs all of the exacting duties of his office, with no diminution of his characteristic vim or efficiency.

Modern Fire Alarm Signalling

Storage Batteries—Description, Installation, Charging and the Proper Means of Upkeep

By E. W. KIERSTEAD, E. E.

THE author in this article, which is the fourth of a series, describes the storage battery that is used to furnish the electrical power for the operation of the modern fire alarm system. He has had practical experience in fire alarm work, and he will answer questions on this subject submitted by the readers free of charge. The only condition is that a stamped envelope must be enclosed for reply.

Description

A storage battery consists of a single cell or a number of cells connected together to form a group or unit. The term battery means a group of cells and is incorrectly used when referring to a single cell except when that cell is used as a single unit. A cell is made up of plates, or grids as they are sometimes called—there are one or more positives and negatives in each cell. In batteries used for fire alarm work the cells as a rule have but two plates a positive and a negative. They are usually of the Plante or pasted type, both plates being made up of lead sulphate and are changed by chemical action. While being charged the positive is converted to lead peroxide and the negative to finely divided or sponge lead. This action can be seen taking place by watching the plates change color. You will see that the positive plate when being put in for the first time is of a brownish or chocolate color and the negative plate is of a dark lead color; when the battery is fully charged you will see that the positive plate is of a black or wet slate color and the negative plate has become of a metalic lead color.

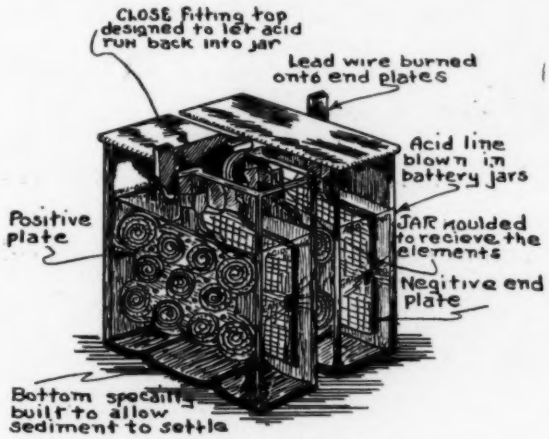
If upon inspection you observe that the plates have become coated with a white scale or white crystals it is a good danger sign of the sulphation of the battery. The cause of this condition can be attributed to one of two things, either a great amount of overcharge or a complete discharge. The remedy is to correct the condition by either cutting down the rate or length of charge. The remedy for the second case is to charge the battery until it is completely charged at which time the sulphation will drop off and dissolve in the solution. The way to properly charge a battery will be found in this article in another chapter.

The acid used in a Fire Alarm Battery is put in at a specific gravity of 1.210. When the specific gravity of solution becomes greatly in excess of 1.180 it is useless and it should be renewed at once. An individual cell should show a voltage of between 2.1 and 2.3 volts and at the stopping of a charge should be around 2.5 or 2.7 volts per cell. When completely discharged the cell voltage will be between 1.75 and 1.8 volts a cell. Excessive gassing or spraying (gas bubbles arising to the surface) is harmful in that bubbles expand in the plates and carry off small particles of the active material with them on their way to the surface; the result will be noted in the form of sediment in the bottom of the jar, it is very bad for the plates and the gassing will not be great unless the charging rate is too high. A high or excessive rate will also tend to buckle the plates and the highest safe rate is (7.5) .75 amperes hour.

Any good electrical hand book will give you the theory of storage batteries and if you want to get the most out of your battery inform yourself on its principle, it is a good plan to provide yourself with one to study its contents.

Installation

The battery is installed on a wooden or iron pipe frame rack and its erection and construction is of so simple a form that it need not be discussed in this column. Before installing the battery select a clean dry and amply large enough room for the rack and set your racks so as to have plenty of working space on all sides. Paint the battery rack with two coats of black asphaltum paint and allow it to thoroughly dry before starting your work. After the racks are good and dry, run your circuit wires in from the storage battery charging board to the rack and bring out your battery leads through the holes in the rack for that purpose; leave about six inches on each wire for connecting to fuse block. Remember you have two sets of wires one for A side and one for B side and it will be well to see that they all lead out of the right holes—this will save yourself time and trouble later on. When you are sure that you have your wires all in the right places you can start with 1A positive and mount the fuse block up tight; run porcelain bushing over the wire and set it in the hole in the rack; form up wire and attach to the bottom of the fuse block. Now start with 2A positive and repeat as above, when you have all the positives done on A side hook up the negative leads and then hook up the B side as above. After you have all wires attached you can start on the rack. Place the double insulators in holes in cross members and set the glass strips in place. Unpack the glass jars and wash them out thoroughly; rinse and stand them upside down to dry. Now you may continue with your wiring while the jars are drying. You will remember that we left the lines untouched at the switch board; we will now proceed with them. Obtain a bell and two dry cells and hook them up in series, run a lead from the bell long enough to reach any part of the battery rack and provide a lead long enough to reach any part of the switch board. Have a man in the battery room place his lead on number 1A positive. You will have to find this wire by touching each wire until the bell rings. To number 1A positive you can attach the wire forming it in a neat manner so that when all wires are hooked up and laced they will form a neat looking job. Go in the order the terminals are marked on back of board namely 1A positive, 1A negative, 1B positive and 1B negative, and follow in order named until complete. It is best to test out twice and be sure you are right than have to splice out your wire. When all connections are made and formed up, lace with waxed twine. You can now proceed with your battery installation. Mount the battery jars on glass rods arranging them in balanced order on


CLOSE fitting top designed to let acid run back into jar
Lead wire burned onto end plates
Acid line blown in battery jars
Positive plate
JAR moulded to recieve the elements
Negitive end plate
Bottom specially built to allow sediment to settle

GAMEWELL F.I.P BATTERY
Designed especially for Fire and police signalling use.

SKETCH # 9

each side of the rack, and set up only one circuit at a time. Unpack the elements and dust off with small hair brush, getting all sawdust and wood chips out of the plate. Do not use any plates which are cracked, broken or bent.

Start your set with the positive end plate in the first jar and be sure that you have a positive and negative in each cell and that your last end plate is a negative. Be certain of this before continuing. If the lead wire is supplied with plates, form up the wire in a neat manner and attach to the top of the fuse block. Then continue with next set until you have completed the installation. If no wire is supplied you will have to obtain some lead wire and attach to bolts provided with end plates, being sure to put a good coat of vaseline on bolts and to keep them coated in the future.

The next step is to put the acid into the jars, and it should be done before fuses are put in the fuse block. Obtain a crockery pitcher or a glass pitcher holding about two quarts and a syphon to obtain the acid from the carboy. Be sure the acid is 1.120 specific gravity before putting into the battery, if acid is of right gravity proceed to fill pitcher and pour acid slowly into jar until you reach the acid line, which will be found in the latest type battery; if no acid line is shown fill up to a level of about ⅛th inch above plates. Fill one set at a time and look for acid

(*Continued on page* 638)

NEW YORK STATE FIRE CHIEFS HOLD THREE-DAY CONVENTION

Hear and Discuss Many Papers —Decide to Hold Exhibit Next Year—Officers Elected

MANY important matters in connection with fire-fighting and the work of the fire department were discussed at the twentieth annual convention of the New York State Association of Fire Chiefs, which was held at the Hotel Van Curler, Schenectady, N. Y., on June 16 to 18. The convention, which marked the twenty-second anniversary of the founding of the association, was held in connection with the seventeenth annual meeting of the Conference of Mayors and other city officials of the State of New York.

Chief John Gibson, Mount Vernon, N. Y., President.

After a joint session at 10 a. m. of the Conference, the New York Fire Chiefs convened at 11 a. m. with Chief E. J. Coyle, Lockport, N. Y., president, in the chair. Commissioner of Public Safety Derra, introduced by Chief A. Derra of the Schenectady Fire Department, welcomed the fire chiefs as a representative of the mayor. President E. J. Coyle responded on behalf of the association.

Important Papers Read

W. Graham Cole, Safety Engineer of the Metropolitan Life Insurance Co., read a paper on "Street Regulations Which Affect Fire Department Operations." Chief J. N. Sullivan, of Utica, spoke on "Putting Over Fire Prevention." Chief John Gibson, Mount Vernon, chose as his subject, "Salvage Work in the Fire Department." Chief Thomas J. O'Connor, of the General Electric Company's Schenectady Plant Fire Department, presented a paper on "Industrial Fire Protection," which was of unusual interest, as the author went into considerable detail.

The Proposed I. A. F. E. Motion Picture

I. Herbert Case, vice president and general manager of FIRE ENGINEERING, and chairman publicity and membership committee, International Association of Fire Engineers, spoke on the subject, "Cooperation with the International Association of Fire Engineers." He gave the delegates a report of the work of the committee, including the history and all of the data in connection with the proposed I. A. F. E. motion picture, "The Fire Brigade." Part of the proceeds from the production of this film, which it is hoped will be available for exhibition in a short time, would go toward increasing the usefulness of the International Association. It is also believed, according to Mr. Case, that an arrangement can be made whereby part of the proceeds may go toward firemen's pensions.

W. P. Capes, executive secretary New York State Conference of Mayors and Other Municipal Officials, spoke on "Fire Department Publicity."

To Have Exhibits Next Year

An important report was that made on behalf of the membership committee by the secretary, Chief James Golden, Cohoes. Twenty new members, according to Chief Golden, had been added to the rolls; a still greater growth was looked for during the coming year. Chief Golden also urged the necessity for the association holding exhibits in connection with its annual convention. He cited the success that had attended such a plan as adopted by the New Jersey and the New England's Chief Associations. The convention adopted a resolution appointing an exhibit committee for the purpose of interesting the manufacturers of fire apparatus and appliances in the proposition of an exhibition at the next convention. The committee consists of Chiefs John Espey, Elmira; Chris. Noll, Poughkeepsie; J. N. Sullivan, Utica; Frank Jaynes, Rochester, and George Bowers, Rome.

A legislative committee was appointed by the Chair, consisting of Chiefs M. J. Fleming, Albany; C. V. Casey, Troy; A. Maxon, Gloversville; A. Derra, Schenectady, and A. Lyons, Binghamton.

The subject of Chiefs identification cards was taken up and considered.

Chief James J. Mulcahey, Yonkers, secretary of the International Association of Fire Engineers, was to have spoken, but, owing to the death of his sister, could not be present. A telegram of sympathy was sent him through the secretary.

It was voted, after considerable discussion, to appoint a committee of five to investigate all of the phases of the question concerning the personal liability of fire truck drivers in case of accident.

Officers Elected

The officers elected for the ensuing year were:

Chief John Gibson, Mount Vernon, President.
Chief Frank Jaynes, Rochester, Vice-President.
Chief James H. Golden, Cohoes, Secretary-Treasurer.
Chiefs August Derra, Schenectady, and Cornelius Casey, Troy, Directors.

The Chiefs Well Entertained

The chiefs and other spectators were entertained on the evening of June 16 by a display of fireworks in connection with the programme of the opening of the Western Gateway Bridge.

On the afternoon of June 17 an exhibition was given by the Amdyco Company of New York, after which the chiefs enjoyed the hospitality of Chief Derra and the Schenectady Fire Department consisting of a fine spread at the Fire Hall after

(*Continued on page* 625)

Members of the New York State Association of Fire Chiefs Gathered at Schenectady for Their Annual Convention.

Unable to Check Fire Beneath Pier

Fire Travels Quickly Among Spiles and Soon Large Pier Building Is Entirely Destroyed—Department Unable to Head Off Blaze

THERE have been so many large pier fires during the past few years that the fire described in this article of the series on administration will prove of particular interest.

This fire should not have developed to the proportions which it did for it was discovered early and the department was promptly on hand to operate on it.

The assistant chief's decision on the method to proceed in handling this fire was probably responsible for its extent.

The sketch herewith shows the pier as it appeared before the fire. The building was about 65 feet wide by 150 feet long. All of the structural work was frame with the exception of the main portion of the shed extending out over the pier which was of frame trimming with sheet iron covering. The pier itself was built of heavy timbers covered with planks and the spiles were of wood.

At the time the fire occurred there was a great quantity of turpentine in barrels, some cotton, and some finished lumber stored in the shed.

None of this, however, took fire until the fire had been burning for some time beneath the pier.

There were no serious exposures on any side and as luck would have it the pier stood alone. The street facing the pier was about 100 feet wide and there were no buildings immediately across from it.

The Fire Department

The fire department in the city in which this fire occurred consists of the following: Seven engine companies (triple combination) two ladder companies; and one combination chemical and hose wagon.

Response to alarms in the district in which fire occurred is as follows: First alarm: engine companies Nos. 1, 2, and 3 and ladder company No. 1: Second alarm: engine companies Nos. 4 and 5 and ladder Co. No. 2: Third alarm: engine companies Nos. 6 and 7 and combination chemical and hose wagon.

There were plenty of hydrants within reach of the pier, and a single 4-inch line running the entire length of the pier with six fire department connections to it.

The Fire

The fire occurred about two o'clock on a Saturday afternoon when a vacationist was endeavoring to repair his motor launch which was moored beneath the pier.

Something went wrong and the motor boat burst into flames. The boatman jumped into the water, swimming to shore and immediately transmitted a first alarm, bringing three engine companies and one ladder company.

As luck would have it, the mooring rope on the motor boat had burned in two by the time the fire department arrived and the boat had floated directly beneath the pier shed. Here it continued to burn merrily while the fire department stretched in a single line and started cutting up the heavy plank flooring of the pier in an endeavor to get at the fire.

The assistant chief arrived shortly after the first engine company and had been there but a few minutes when the chief rolled in.

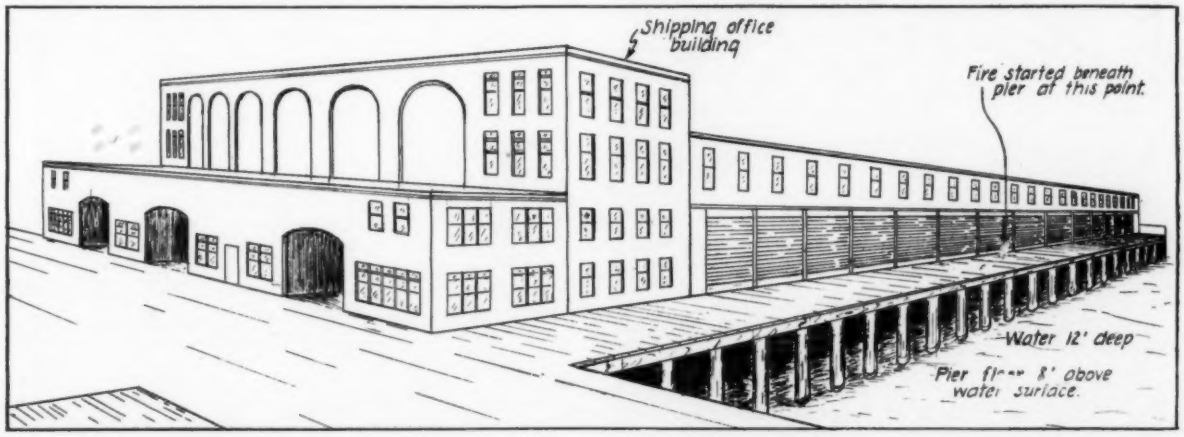
At the time the chief arrived members of the truck company were still cutting the flooring to make an opening for the line of hose which had been laid. Only one line of hose had been laid and this was by Engine Co. No. 1. The chief went to one side of the pier, dropped a ladder and climbed part way down to reconnoitre. He discovered that a number of the spiles beneath the pier were burning, possibly due to the coating of oil which they had on them. He thereupon ordered additional holes to be cut in the pier in an endeavor to get lines in such a position that they would be able to quickly bring the fire under control.

When the first hole was opened, a cellar pipe was put in operation to kill the fire on the boat but this had, in the meantime, become the least of the problems facing the fire department. The spread of fire on the pier itself was beginning to be a serious matter so attention was directed to that.

Due to the depth of the timbers supporting the planking of the pier it was impossible to use the cellar pipe with any great effectiveness.

After getting two other holes cut in the flooring in the pier shed and two other lines of hose operating at a very disadvantageous angles, the chief discovered the fire was spreading to dangerous proportions and immediately transmitted a second alarm.

This brought engine companies Nos. 4 and 5 and Ladder Co. No. 2. About the time the second alarm assignment was rolling in, the fire had reached such proportions that it was necessary for the men to back out in order to prevent being affected by the heat, or cut off. In so doing the holes cut through the planking in the pier were left open and fire quickly entered, as was evident through the early ignition of materials within the pier shed.



There being no fire boat in the department in this city, all effort at extinguishment had to be made by land lines.

When the fire came through the flooring, lines from engine companies 3, 4 and 5 were stretched in to operate on both sides of the pier into the pier shed.

These operated for a while but made poor headway on account of the locked rolling doors on each side of the pier, built of metal and well secured.

Once the fire reached the turpentine barrels, and involved them as well as the cotton and lumber, there was nothing for the department to do but to continue to operate in a forlorn endeavor to limit the extent of the fire.

Possibly fifteen minutes after the arrival of the second alarm apparatus the entire end of the pier shed was ablaze and fire coming out from beneath the pier platform on both sides. The chief thereupon transmitted a third alarm calling out engine companies 6 and 7 and the combination chemical and hose car.

(*Continued on page* 634)

CHIEFS' CONVENTION EXHIBITS WILL BE COMMODIOUSLY HOUSED

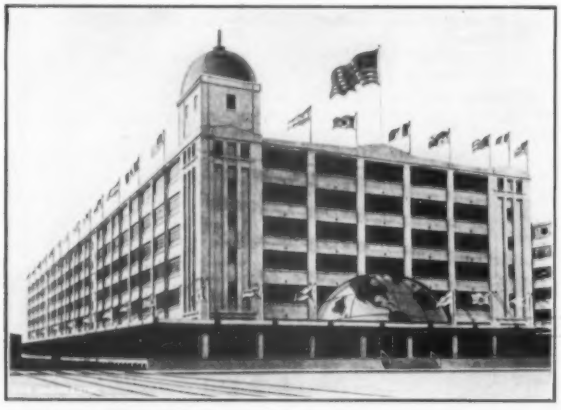
Building Will Be Connected With Hotel Roosevelt, Headquarters, by Busses Every Ten Minutes—Spaces Being Rapidly Taken Up

THE building in which the exhibits at the 54th annual convention of the International Association of Fire Engineers is to be housed at New Orleans for the week of October 19—the two million dollar United States Army Base Building—is about ten minutes' ride from the Hotel Roosevelt, the headquarters of the convention. It is situated at the intersection of Dauphine and Poland Streets, and Chief Evans, of New Orleans, intends to run buses every ten minutes to and from the Exhibit Hall.

The building is a roomy structure, with ceilings 13 feet, 7 inches in height, the dimensions of the doors being 9 feet high by 14 feet wide.

There is an inside area of 18,514 square feet and platform area of 3,200 feet, making a total, according to Chief William F. Daley, Brockton, Mass., chairman of the exhibit committee, of 20,834 feet.

Chief Daley strongly advises all prospective exhibitors to at once apply for space, as the allotments are rapidly being taken up and to delay will mean to lose the most advantageous spaces,



United States Army Base Building, New Orleans, La., in Which the Chief's Convention Exhibits Will be Housed.

if not the opportunity to exhibit at all. The accompanying diagram shows the layout of the Exhibit Hall, with the spaces which have been sold up to date outlined in black.

Boston Holds Memorial Services

The memorial services of the Veteran Firemen's Association of Boston were held on June 13 at the Firemen's Lot in Forest Hills Cemetery.

The various participating organizations formed at the fire headquarters and marched to the cemetery. Mayor Malcolm E. Nichols was the orator of the day. Many prominent officials of the fire department and the city government were present. The graves were decorated by details from the various organizations.

H. BELKNAP.

Hultman Named Boston Fire Commissioner

On June 15, Mayor Malcolm E. Nichols, of Boston, appointed Eugene C. Hultman as fire commissioner. The salary is $7,500 a year.

Hultman has been serving as chairman of the state commission on the necessaries of life. He is 49 years old and a graduate of the Massachusetts Institute of Technology. He was vice-president of the West End Street Railway at the time of its merger with the Boston Elevated System. He served as representative and senator from Quincy, Mass., and in 1920 was appointed emergency fuel administrator.

It is expected that his appointment as fire commissioner will be approved by the civil service commission and that he will take office at once, relieving Col. Thomas F. Sullivan, chairman of the transit board, who has been serving as acting fire commissioner for several months since Theodore Glynn resigned with the change in administration.

The first appointee of Mayor Nichols, John T. Hawes, was rejected by the civil service board.

H. BELKNAP.

I. A. F. E. DIRECTORS TO MEET IN NEW YORK

Chief James Armstrong, President International Association of Fire Engineers, has called a special meeting of the Board of Directors at New York City, July 8–9, for the purpose of discussing further plans for pushing the association's proposed motion picture "The Fire Brigade."

Ex-Chief Williams, Montclair, N. J., Dead

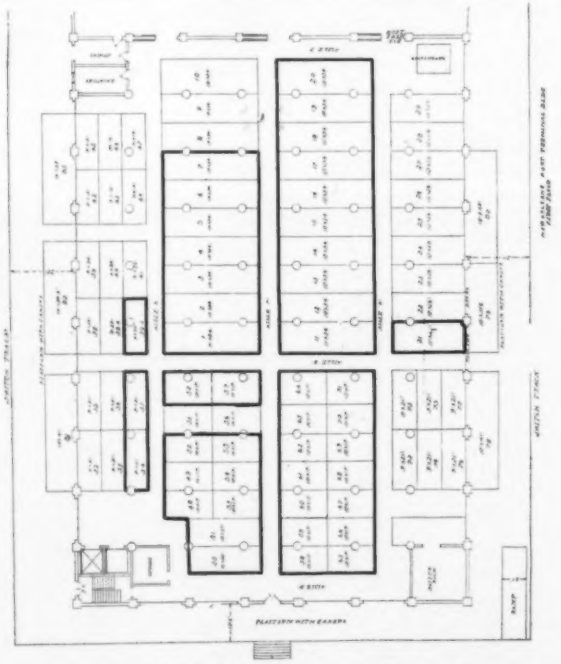
Frederick E. Williams, former chief of Montclair, N. J., and the first paid fire chief of that city, died at his home in Montclair on Sunday, June 19, from a paralytic stroke at the age of sixty-three.

He had been suffering from sickness for about four years, and for that reason was retired in November, 1923. He joined the department in February, 1888, an organization composed at that time of volunteer firemen. In 1914, when the fire department had grown so that the volunteer system was no longer practical, Mr. Williams had the honor of being the first paid fire chief. All told he served the department for thirty-five years, being chief for sixteen years.

Chief Williams was a member of the International Association of Fire Engineers, the Firemen's Benevolent Association of New Jersey, New Jersey Fire Chiefs' Association, B. P. O. Elks, Masons, Shriners, and other organizations.

Interment was at Mt. Hebron Cemetery, following the funeral services of the Elks and Masonic orders.

First Chief of Tacoma, Wash., Dead—Albert F. Hoska, the first fire chief of Tacoma, Wash., died at his home recently at the age of seventy-five years.



Layout of the Exhibit Hall. Spaces Sold are Outlined in Black.

COURSE OF INSTRUCTION IN FIRE PROTECTION

AS GIVEN AT THE UNIVERSITY OF ILLINOIS

MECHANICAL INSTALLATIONS

By RAYMOND T. NELSON,
Engineer, Western Actuarial Bureau, Chicago

THIS thirteenth installment ot fhe University of Illinois Course in Fire Prevention continues the consideration of a type of common and very important hazards which the chief has to combat in his fire prevention work, the improper installation of mechanical and electrical devices. This paper is replete with valuable hints along these lines:

INSTALLATION OF STATIONARY FURNACES

Foundry Cupolas (Fig. 12).

Clearance between unprotected combustible materials above and in front of charging door, tap hole, slag spout; at sides of furnace; and the height of top of stack above combustible room, should conform to the following requirements:

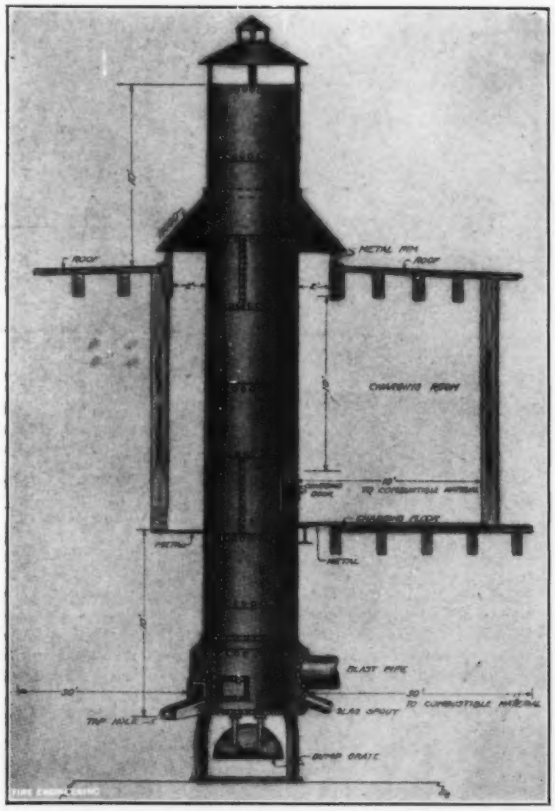


Fig. 12. Cupola Clearances and Protections.

In front of charging door	10 feet
Above charging door	10 feet
In front of tap holes or slag spout	30 feet
Note: When molten waste materials are dumped beneath furnace, lateral clearance from base of furnace should be not less than 30 feet in all directions.	
Above tap holes or slag spout	10 feet
Where passing through floor or roof, or where walls, partitions, etc., are exposed by portions of the furnace without charging doors, tap holes, or other openings	2 feet
Clearance from top of stack to combustible roof:	
With approved covering	10 feet
With unapproved covering	30 feet

STACKS THROUGH COMBUSTIBLE FLOORS OR ROOF Without Collar (Fig. 13).

Clearances between stacks, chimneys, and stovepipes and unprotected combustible materials where passing through floors or roof should conform to the following minimum requirements.

	Grade of Furnaces		
	Low	Medium	High
Metal stacks unlined or not entirely enclosed where passing through floors or roof	6 inches	18 inches	———
Note: If metal stack, unlined or not entirely enclosed, passes through rooms with combustible contents, clearance from contents should be provided by surrounding the stack with an approved wire or metal screen with clear space between stack and screen equal to the distances specified above.			
Brick stacks or metal stacks lined with fire brick (not including foundry cupolas or similar upright furnaces which constitute their own stacks)	———	———	18 inches

STACKS THROUGH COMBUSTIBLE ROOF With Collar (Fig. 14).

Clearance from stacks, chimneys and stovepipes and com-

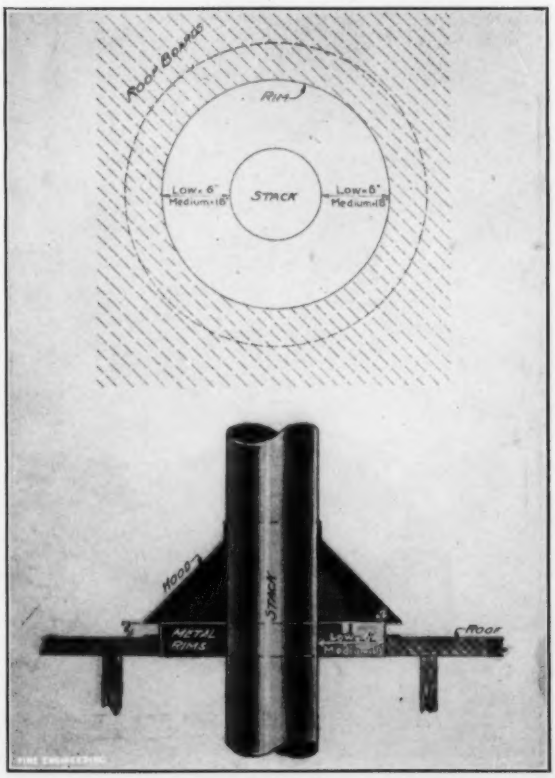


Fig. 13. Stack Through Combustible Roof (without Collar).

bustible material where passing through floors and roof should conform to the following minimum requirements.

	Grade of Furnaces		
	Low	Medium	High
Metal stacks unlined or not entirely enclosed, but provided with metal ventilating jacket at floors or roof equidistant from woodwork and stack, extending not less than 6 inches below lower edge of floor or roof joists, and with metal hood around stack over opening through roof with at least a 2-inch air space above roof for air circulation	3 inches	12 inches	———

INSTALLATION OF HOT AIR FURNACES (Fig. 15).

Floors: Floors, if combustible, should be protected by two courses of 4 inch hollow tile crossed with boiler iron on top, or three courses of brick, with middle course laid crosswise and on edge, with ventilating spaces, left open at ends, between. Protection should extend even with furnace at sides, front and rear, and in addition, if other than gas, electricity, or liquid fuel is used, floor, for a distance of 18 inches in front, should be protected by a layer of ¼-inch asbestos covered with sheet metal or its equivalent.

Lateral and Vertical Clearances: Clearances between furnace and unprotected materials above, and at sides. front and rear should meet the following mimimum requirements:

Above	18 inches
At sides and rear	18 inches
In front	48 inches

Note: If clearances are less than those specified above, combustible materials should be protected as follows:

Above: Top of furnace should be insulated with 4 inches of sand or its equivalent leaving ceiling open for inspection.

At sides, rear or in front: Woodwork should be protected by a layer of not less than ⅛-inch asbestos with a covering of sheet metal supported so as to leave an air space of one inch, or by a layer of ¼-inch asbestos board supported to leave at least a 1-inch air space. In no event should the clearance be less than one-half of those specified above.

Breeching or Smokepipe: Clearances between metal breeching or smokepipe and unprotected combustible materials should not be less than 18 inches.

Note: If clearance is less than 18 inches, pipe should be covered with at least 2 inches of magnesia lagging or its equivalent, or woodwork protected as above. In no event should the clearance be less than 9 inches.

Hot Air Pipes: Pipes should be of metal. Horizontal pipes leading from furnace should not be less than 6 inches from combustible material. If less than 6 inches, woodwork should be protected with loose fitting tin, or pipe covered with at least ½ inch of corrugated asbestos. If so protected, clearance may be reduced to 3 inches.

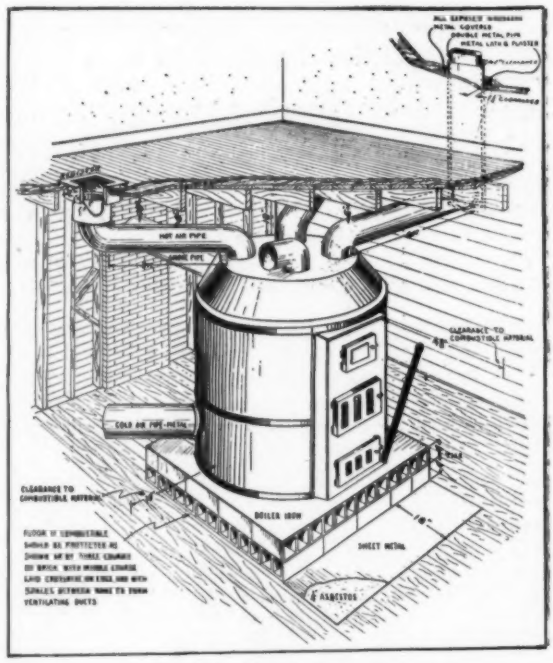


Fig. 15. Hot Air Furnace.

Pipe should not be placed in a combustible partition nor enter a combustible enclosure at a distance less than 8 feet horizontally from the furnace.

Pipes passing through combustible partitions or floors or located in closets should be double walled with an air space of at least 1 inch between.

Pipes contained in combustible partitions should be double walled with an air space of at least ½ inch between or have a covering of not less than ½ inch of corrugated asbestos. Clearance between outer pipe or surface of covering to wooden studding should be not less than 1½ inches. Plaster covering portion of partition containing pipes should be on metal lath.

Cold Air Pipes: Pipe should be of metal or other incombustible material.

Registers: Registers placed in woodwork or combustible floors should be surrounded with a border of incombustible material not less than 2 inches wide.

Register boxes should be metal double walled with at least 1 inch air space between or single walled covered with asbestos, not less than ⅛ inch thick. Clearance between outer wall or surface of covering should be not less than 2 inches. If less than 2 inches woodwork should be covered with tin within a distance of 2 inches.

One register should be fastened open or be without valve or louvers to prevent overheating.

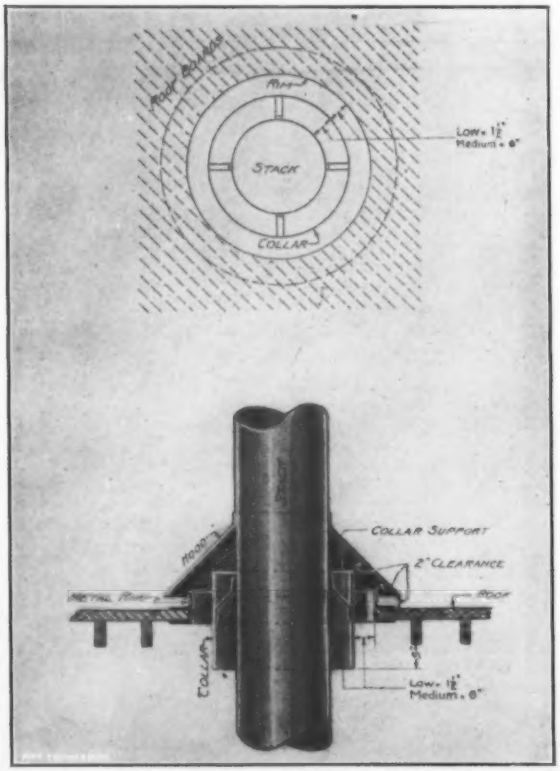


Fig. 14. Stack Through Combustible Roof (with Collar).

The Old Time Maroon

The summoning of firemen by means of exploding a "maroon," is becoming obnoxious to the people of Maidenhead, England. The reason is that on a recent occasion several firemen were blown off their feet, many windows were broken, dwellings were damaged and the station nearly wrecked by one of these blasts. It seems that the maroon hit several telegraph wires, fell in the street and there exploded. The town is now to have a fire siren.

WITH THE EDITOR

Provide Stairs for Fire Fighters

A stubborn blaze on the 20th floor of the Remington Building, in the course of construction at 115 West 42nd Street, New York during the early morning hours of the 15th of this month balked firemen for a time, as the pumpers could not get the water above the 16th floor. The steel work with some of the flooring had been completed up to the 20th floor where the fire occurred. The only ladders were those used by workmen and were too rickety for use by the fire department.

It was necessary to stretch hose from the standpipe in the 15 story Elks Building to the rear of the Remington structure and from this to get a stream in operation on the fire.

While the fire department did quick work in extinguishing the fire, even in face of these difficulties, and deserves to be commended upon their work, still the condition which they faced is one which should not be permitted in the future.

To run a building up to such heights as to be out of the range of street or apparatus streams, and to provide no certain means for fire departments to get streams up to a fire, is inviting disaster.

Fires have been occurring with marked frequency in buildings undergoing construction and the more difficult it is made for the department to operate on fires in these structures during construction, the greater the liklihood there will be of disastrous fires.

Builders in erecting such buildings should be required to provide at all time satisfactory means for the department to reach a fire, should such occur.

Hoists are entirely unsatisfactory for once fire secures a hold they are quickly put out of commission. The only alternative therefore is to see that satisfactory stairways or sturdy ladders are always available for fire department use.

The Sane Fourth

It is indeed gratifying to note that each succeeding year shows a distinct falling off of the number of Fourth of July fatalities and accidents.

It has required a long concentrated drive to educate the public up to celebrating Fourth of July without the dangerous feature of fireworks, but the task has been a worthy one and has received its reward.

The sale of fireworks to children in cities is now the exception rather than the rule. It is hard to find a city of size anywhere in this country that permits the sale of such explosives to minors.

Fireworks, like everything else entailing the element of danger, are all right in the hands of the experienced; but in the hands of youngsters they create a condition of great hazard both to property and limb.

It's a mighty fine thing to show one's patriotism by setting off fire works and making as much noise as possible but at the same time it is just as patriotic to celebrate the holiday in a quiet manner such as taking part in Fourth of July celebrations arranged by local civic bodies.

It is very encouraging now to read on the fifth of July of nearly a million children taking part in a Fourth of July celebration with practically a negligable number of accidents. Let us hope that other fire prevention and safety movements are rewarded as well as has been the move to eliminate the dangerous Fourth of July celebrations.

Fire Losses That are Not Considered

There are often, in fires of more or less heavy damage, elements which do not at once appear on the surface, but which, nevertheless, are a very vital part—and sometimes even the greater part—of the fire losses.

These might be termed "hidden losses" and do not make themselves manifest at once, but they are just as real as the actual property consumed and sooner or later will make themselves felt.

These "hidden losses" may be placed under various classifications: Loss of Trade; Loss of Time; Loss of Work; Loss of Credit; Continuance of Overhead Expenses, while the Income has Ceased; Dissipation of Reserve Capital by the Necessity to Recoup the Fire Losses through the Use of the Money in Quick Rebuilding, and so on.

Perhaps one of the most subtle, and at the same time, most real and serious embarrassments suffered by a going business of small capital is the loss or curtailment of credit which a large fire is apt to cause, especially if the insurance fails to amply cover the loss. There is apt to follow a feeling of uncertainty as to the solvency of such concern, which inevitably will have this result.

Referring to this matter an expert writing in the *Credit Monthly*, says:

"Forty-three per cent of business and industrial concerns whose buildings are destroyed by fire do not resume business. Seventeen per cent who furnished financial statements before having a fire do not furnish such statements afterwards. Fourteen per cent suffer a reduction of from thirty to sixty-six per cent in their credit ratings. Only twenty-six per cent are unaffected as to credit rating, but even they lose in other ways."

Very few have made money through honest fires. Even those concerns which are enterprising enough to take advantage of their own misfortune and turn their fire into an advertisement, rarely are compensated suffi-

ciently to cover the loss of time and dollars suffered.

Another expert in insurance, referring to this matter, may be quoted. He is S. S. Huebner, professor of insurance, Wharton School of Finance and Commerce, University of Pennsylvania. Dr. Huebner says:

"Property owners are increasingly appreciative of the fact that in the majority of fires the tangible property actually destroyed is after all the smallest loss, and that the more important factor is the indirect loss of profits and continuing but unavoidable overhead and fixed charges during the time that the business is rendered inoperative."

All of this loss of credit, time and prestige can be avoided by "fighting the fire before it occurs." Fire prevention, properly understood and practised, not only after the structure has been built and occupied, but in its actual construction, will go far in stopping this unnecessary waste of capital and resources.

The fire chief has, to a very large extent, a responsibility in this matter. To him, as an expert in matters of fire prevention, will the people naturally turn and he must see to it that he thoroughly understands such matters and is prepared to offer advice and suggestion, both in the building and in the maintaining of their homes and business establishments, as regards the dangers from fire.

By so doing he will become an authority in his chosen field of fire-fighting, and will be looked up to in matters connected with "fighting the fire before it occurs," as well as after.

The New Babbs Switch School House

At 9:30 p. m. on Christmas Eve, December 24, 1924, the 20 x 36 foot frame school house at Babbs Switch, Oklahoma,

The New Babbs Switch School House.

The new school, constructed so that the tragedy of December, 1924, can never recur, was dedicated on August 23, 1925, in the presence of hundreds from all parts of Oklahoma, and will be known as Babbs Memorial School."

took fire while filled with children and grown-ups who were watching the Christmas exercises.

Babbs Switch Community's Christmas. From These Ashes Thirty-three Bodies Were Taken.

The building, being of highly inflammable construction with ceilings and walls of pine lumber, newly painted, burned with such rapidity that within 12 minutes the building had collapsed.

To aggravate conditions, the windows were all barred with heavy mesh wire screens, so securely fastened that it was

Babbs Switch School Which Could Have Been Made Safe.

impossible to release them or tear them off in the face of the fast-spreading fire.

A check-up after the fire disclosed 33 bodies burned to a charred condition in the ruins, and a total of 43 other persons injured, three of whom died a day later.

This fire emphasized in a profound manner the extreme hazard in connection with frame school buildings, particularly where improper exit facilities are provided.

A new school house has been built to take the place of the destroyed one, and is known as the Babbs Memorial School, District 42. It is shown, along with pictures of the original building and the fire scenes, in the illustrations herewith.

As might be expected, the new building is about as fire-safe as modern architecture can make it.

Though a lesson sadly learned, it was learned too late.

But let other towns and rural communities benefit by this lesson and avoid a repetition! The sacrifice of these 36 people will not have entirely been in vain, if this holocaust results in an appreciable improvement in safety conditions of small town and rural school buildings.

Neithammer Indorsed for Fire Chief

Chief John G. Neithammer, head of the fire department of Reading, Pa., for the past eleven years, has been endorsed for re-election to that office by members of the Rainbow Fire Company. The resolution that has been passed favoring his election states that he has done many things conducive to the best interests of the volunteer fire department. Copies of the resolution have been mailed to the other fire companies in the city.

New Fire Chief at Riverside, Cal.—John C. Hutchinson has assumed charge of the fire department at Riverside, Cal. He was formerly head of the department at Brawley and has been active in fire departments for the past sixteen years.

S. Pasadena, Cal., Wants Two-Platoon System—The fire department of South Pasadena, Cal., has petitioned the city council for the establishment of the two platoon fire system. The matter is being held under advisement.

Shall This Scene Be Repeated Because of Our Carelessness and Indifference?

QUESTIONS AND ANSWERS

Conducted by FRED SHEPPERD, B. Sc., M. E.

"He that questioneth much shall learn much"—BACON

NOTE—Readers of FIRE ENGINEERING are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

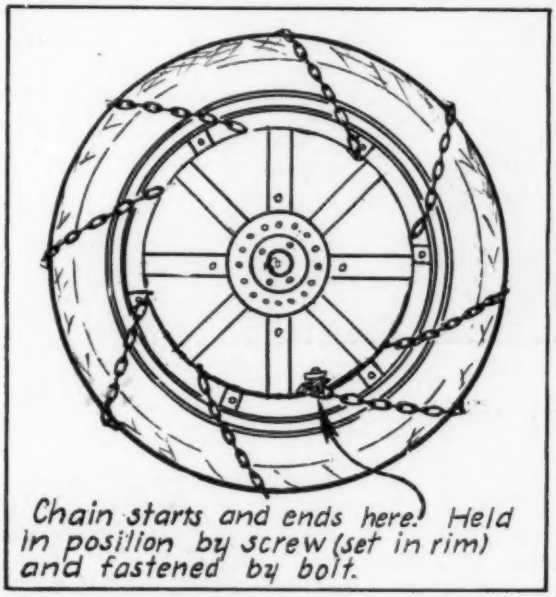
Tire Chains for Quick Attachment

To the Editor:

In a recent issue of your journal the topic of putting chains on quickly was discussed and suggestions requested. In reply I suggest the following for quick work and a one man job.

In the accompanying sketch the chain is on tire ready for rough roads. It is accomplished in the following manner:

A screw is set in the rim and over this is placed one end of the chain which is then wrapped about the wheel as shown in the diagram, the end of chain being placed over the same screw



at which it started. A bolt is placed thereon which holds it in position.

When not in position for rough road service the one end of the chain is released and it is then wrapped about the spokes (in one and over the next) the end being secured with a piece of wire.

JOHN P. STYLES,
New Rochelle, N. Y.

Uses of Roof Rope, Roller and Torch

To the Editor:

Will you kindly answer the following questions and oblige.

1. When and how is a roof rope used at a fire?
2. When and how is a roof roller used at a fire?
3. When and how is an acetylene torch used?

Yours truly,
J. McK.
Elizabeth, N. J., April 6, 1926.

Answer 1. A roof rope is used for raising ladders from the street to the top of a building for raising a hose line up, for raising tools, and for effecting an escape from the roof.

In hoisting ladders, hose or tools, the roof rope is taken to the roof by the men who proceed up fire escape stairways or by other means. One end of the rope is firmly held and the other dropped to the street where it is attached to the devices to be hoisted.

In the case where roof rope is being used for escape of men trapped on a roof, one end of the rope is attached around some support such as a chimney, pent house, or other object which will not give away under strain.

It is assumed that the rope is of sufficient length to reach to the street, or to the roof of adjoining building to which escape can be made.

When the rope is firmly attached to the object on the roof and dropped over the side of the building in such a manner that the men going down the rope will not be endangered by fire, the men take positions on the edge of the roof and after wrapping a coat or other object around the rope slide to safety.

Answer 2. Roof rollers as employed in the New York and other fire departments may be used either for rolling hose or ladders on.

The roller is placed over the cornice with the rope which is fastened to the roller attached to some object on the roof so that the roller will not slip out of position.

In the case of bringing ladders up over the roof the ladder is hoisted by rope over the roller to a point where the knot on the rope which is attached to the ladder is in contact with the roller, the ladder is bent over the roller and run in on the roof on either beam.

Where hose is being hoisted the rope is drawn up over the roller; as the hose reaches the roof and comes up in line with the roller it is drawn along the roller in such a manner that it will not be damaged by rubbing against sharp corners.

Answer 3. An acetylene torch in fire department work is usually used for emergency purposes, such as cutting bars to release imprisoned persons, opening up metal doors or other metal coverings which cannot be opened otherwise.

Methods of employing the torch are varied and depend to a great extent upon the design of the torch. Refer to any of the many text books, some of which no doubt may be found in local libraries, on the use of acetylene blow torches for cutting.

"False" and "True" Questions

Conclusion of a series of "False" and "True" Questions given in a recent examination for the grade of lieutenant in the San Francisco Fire Department, and the answers thereto, from the last issue of FIRE ENGINEERING:

Question: 43. True, False. If a high pressure and a low pressure hydrant, both unused, are within twenty feet of each other on a street corner, with the latter closer to the fire, the low pressure hydrant should be placed in service to save time.

Question: 44. True, False. In stretching a line of hose up a stairway, the hose should usually be laid around the stairs and not hung perpendicularly through the well-hole.

Question: 45. True, False. If a fire starts under the gas meter in the basement of a cottage and burns away the lead service connections the fire can be extinguished around the gas meter and the flaming gas can be shut off by shutting off the control valve at the curb in the sidewalk.

Question: 46. True, False. As a general rule the hosemen directing the stream should, unless directed otherwise, follow up a fire and get at its seat.

Question: 47. True, False. A 3-inch coupling can be connected to a 2½-inch outlet of a stand pipe with the aid of a 2½-inch reducer.

Question: 48. True, False. In playing a stream of water at a fire a supply of water from the high pressure hydrant should be used without the use of a reducing valve.

Question: 49. True, False. The 50-foot extension ladder is usually placed in position by the same method as the 65-foot extension ladder, except that the foot brace is not used.

Question: 50. True, False. Drivers of all apparatus responding to alarms of fire or otherwise, shall not drive the apparatus at a greater speed than 20 miles per hour, but shall drive at all times in a careful and cautious manner, and may exceed the speed limit only on the order of a superior officer to do so.

Question: 51. True, False. To open an oak frame glass panel door that is locked, an axe should be used to chop the oak panel and frame.

Question: 52. True, False. An engine company, in responding to a fire in a subbasement where a steam power plant is located and the fire has control of a portion of the fire-room floor

adjacent to the boilers, should take a position with the stream where it can do effective work, and should direct the stream in the direction of the fire, care being displayed not to strike the steam pipes or boilers so as to avoid the chance of an explosion.

Question: 53. True, False. If smoke is seen coming from a plastered wall, an axe should be used to pull off the lath and plaster in the region of the smoke.

Question: 54. True, False. If a fire has destroyed the gas service in an apartment house, first the fire should be extinguished, and then the gas should be shut off by the gas company.

Question: 55. True, False. The squad wagon must respond to every even-numbered box alarm to assist in rescue.

Question: 56. True, False. Three truck companies should respond on all alarms in the hotel and apartment house district.

Question: 57. True, False. If a fire is burning in the basement of a building and threatens to extend upward, if it is impossible to make entrance into the basement by ordinary means, and if the pipe casings are obstructed by counters or floor coverings and can not be located, a hole should be chopped in the hottest part of the floor and the circulator should be put into use there.

Question: 58. True, False. If there is an explosion of waste gas in a street man-hole that contains high tension light-and-power cables, the trouble crew from the light and power company should be sent for at once, and while awaiting the arrival of the trouble crew to shut off the current, every effort should be made to extinguish the fire immediately with chemicals.

Question: 59. True, False. When it is necessary to take a hose line across a street, right angle turns should usually be avoided.

Question: 60. True, False. When it is necessary to drag the line from one position to another the men should not pick up the hose at the couplings.

Question: 61. True, False. To reach a story higher from any ladder a roofing ladder is ordinarily used.

Question: 62. True, False. If a Battalion Chief in charge at a fire gives you an order to convey to a Captain, and you are stopped on your errand by another Battalion Chief who gives you a contrary order, you should execute the second order, for the last order always takes precedence.

Question: 63. True, False. A 32-foot ladder is usually used to brace a 50-foot ladder.

Question: 64. True, False. A 14-foot ridge ladder is ordinarily used to work on the hip roofs.

Answer: Due to local conditions, and local practices, in some cases it has been found necessary to qualify the answers as given. In answering these questions on examination, however, no such qualification should be included. The question should be answered either false or true, and no comments added. Some of the questions, which are purely of a local nature, have not been answered as no information is at hand to make an intelligent answer possible.

43. False. 45. True.
44. True. 46. True.

47. False. (The term "reducer" in most large departments refers to a connection with the larger coupling of female and the smaller of male. This could not be used as an increaser, which requires a 2½ inch female and a 3 inch male).

48. True. This answer is based on the practices of the New York Fire Department in operating from high pressure systems where no reducer is employed.

49. True. 51. False.
50. True. 52. True.

53. True. (It is assumed that the pike axe is referred to).

54. False.

55. This is a local condition and is covered by your assignment cards.

56. A local condition covered by your assignment cards.

57. True.

58. False. In this problem the type of chemicals are not specified. If carbon tetrachloride were employed then it would be proper practice. But if soda and acid extinguishers are used, then the danger would be extreme as the discharge from such extinguishers is highly conducive to electric current.

59. False. 60. False.

61. False. Unless this is the practice at San Francisco, the question should be answered as marked. Many cities employ the scaling ladder for reaching higher floors instead of the roofing ladder, due to the fact that it has a longer hook on and is safer to use in across window sills. However, if San Francisco employs the roofing ladder for this purpose, and this practice is recognized, then the question should be answered "true."

62. False.

63. False. This question is answered "False" based on the practices in eastern department. Fifty and 65-foot ladders in many cases have pike poles which are used for bracing. Many of the 50-foot ladders have no braces at all. If, however, a 32-foot ladder is employed in the San Francisco department for bracing a 50-foot ladder, then the question should be answered "true."

64. True. (If ridge ladder as employed is fitted with hooks).

Fire Chiefs Elected Mayors

It is somewhat unusual for the fire chief to step out of his accustomed departmental work, and it is agreeable to note that two fire chiefs have been elected mayors of their respective cities.

Chief H. H. Niemeyer, Portage, Wis.

Chief W. Zech has been elected mayor of Reedsburg, Wis. He has been a member of the fire department for twenty-eight years, and chief of the department for twenty-one years. In addition, he has served as treasurer for two years, as alderman for six years, and as a member of the public utility commission for three years.

Chief H. H. Niemeyer who is popularly known as "Hank" and as state organizer for the Wisconsin Firemen's Association, has been elected chief of Portage, Wis. His popularity is evidenced by the fact that he received as many votes at the election as his three opposing candidates combined. Chief Niemeyer has been chief of the fire department at Portage, Wis., since 1919. He is at present busy in preparing the edition of the annual of the Wisconsin Firemen's Association which will be issued free of charge to the fire department officers in the United States.

Fire Headquarters for New Brunswick

The cornerstone has been laid for the new fire headquarters being constructed in New Brunswick, N. J.

The building will consist of two stories and a basement which will be used for storage space and a repair shop. The building will house two companies, ambulance, quarters for the chief of the department, and individual sleeping quarters for the firemen.

Chief W. Zech, Reedsburg, Wis.

When the building is completed it will house Hose Company No. 1 and Truck Company No. 1 now located on George St. The buildings formerly occupied by these companies will be sold at auction. The city has an established paid fire department since July 1, 1914, and Harry J. Francis is chief of the organization. The two-platoon system was instituted on January 16, 1920.

The building was designed by William H. Boylan, Alexander Merchant, and Harry Bach, architects, and it is being constructed by Nora and Nora, contractors.

TWO LARGE FIRES IN ONE DAY CAUSE OVER $800,000 LOSS

City of East Hartford, Conn., Has Big Blaze in Early Morning and Another at Night, With Heavy Damages

TWO big fires in one day caused the fire department of East Hartford, Conn., considerable anxiety before being brought under control and resulted in a total fire loss of over $800,000, recently. The first of these fires started at 3 a. m., from an unknown cause, but the first alarm, according to

Two Views of the Fire in the East Hartford Shops of the New Haven Railroad, Showing the Superstructure Burned Away, and (Lower) One of the Badly Damaged Locomotives.

Chief Frank Meunier, of the East Hartford Fire Department, was not received until 3:20, by telephone, and this delay allowed the fire to gain great headway. Three other alarms were sent in, one a general, calling 13 paid members and 30 call men.

The fire originated at the south side of the Stowe & Olmstead grain store, and this building was practically all involved on the arrival of the first alarm company, and spreading rapidly to the surrounding structures, among them being a tobacco warehouse. These were of frame and brick, ranging from one to four stories in height. In fighting this fire the department used one 6-inch and three 4-inch double hydrants, the apparatus in service being two American-LaFrance 750-gal., and one Mack 350-gal. pumpers and one chemical car. Seven engine streams were thrown, with 1 and 1½-inch nozzles, some 3,000 feet of hose being laid. The department was much hampered by the fact that some of the mains were of the 4-inch size. A member of the department was injured while fighting the blaze.

The loss at this fire on the buildings was estimated at $70,000 and on the contents, $780,000.

The second fire occurred at about midnight on the same date, and was in the machine shop of the N. Y., N. H. & H. Railroad. The blaze, which was also of unknown origin, started in the center of the first floor of the two-story building, and the chief, on his arrival, at once sent in two more alarms and a general call, bringing 24 firemen and one American-LaFrance 750-gal., one Reo and one Mack pumpers. Besides the three city hydrants, there were six railroad company hydrants in use, all double 4-inch. Five engine streams were thrown, but there was little chance from the beginning to save the building, and the department devoted its greatest energies to protecting the surrounding structures, at which task it was successful.

The loss at this fire was total on the building, it being valued at $10,000 and on the contents, $55,000, with a valuation of $155,000.

The illustrations shown of both of these fires are furnished through the courtesy of Horace B. Clark, secretary of the Hartford *Courant*.

Delayed Alarm Causes Loss at Pittsburgh

A quick, destructive fire increased by a delayed alarm and fanned by a high wind, recently swept through a large section of the plant of Hubbard & Co., manufacturers of shovels, power, telephone and telegraph line construction materials, at Sixty-second and Butler Streets a section of the large manufacturing district of Pittsburgh, Pa., along the Allegheny River causing a loss of over $500,000 and throwing out of employment temporarily several hundred men.

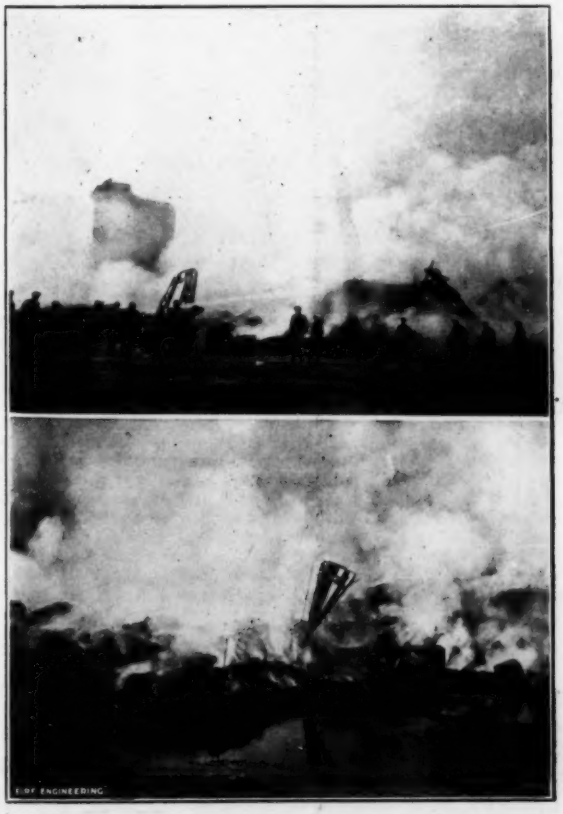
The fire which started from some unknown cause was first discovered by a motorman on a Sharpsburg trolley car while passing over the Sharpsburg Bridge, who speeded his car to the end of the bridge and sent in the first alarm from Station 548 at the entrance to the bridge, which alarm reached the fire department at 1:16 a. m.

Upon the arrival of the first alarm fire companies the fire had already gained great headway and was rapidly spreading throughout a large section of the plant and through the roof.

Ten Engine Companies and three Truck Companies called on four alarms were required to control and extinguish the fire.

Upon his arrival, Chief Richard Smith took full command of the fire-fighting and the firemen under his direction beat back the flames and stopped the spread of the fire throughout a large section of the immense plant consisting of several buildings, extending to the eastward a distance of over 1000 feet.

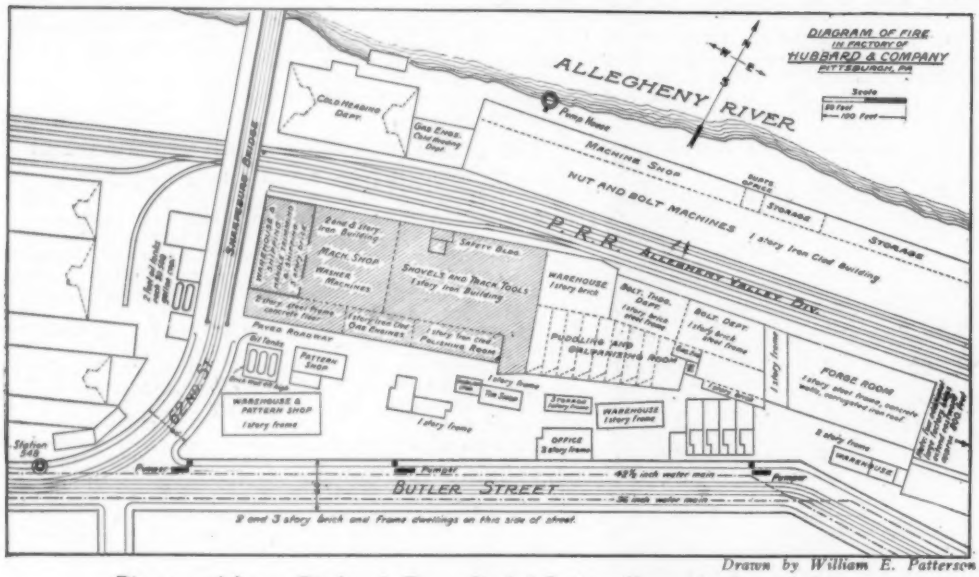
In extinguishing the fire twelve pumper and engine streams,



Dense Smoke from the Burning Hay and Tobacco in a Large Warehouse and Business Block Fire in East Hartford, Conn. Both of These Fires Occurred on the Same Day.

one hydrant stream and one fire extinguisher were used, 9,800 feet of 2½ inch fire hose all cotton rubber lines and 124 feet of ladders. A total of 117 uniformed firemen were on duty.

The following apparatus all motor driven and tractor drawn were in service at the fire. Six 750-gal. American-LaFrance



Drawn by William E. Patterson.

Diagram of Large Pittsburgh Fire. Shaded Portion Shows the Burned Area.

triple combination pumpers, two 700-gal. Metropolitan steam fire engines. Four American-LaFrance combination hose and chemical cars; one Seagrave 75-foot aerial; and two city service trucks.

The Hubbard Company in a letter addressed to Charles H. Kline, mayor of the city of Pittsburgh and to the chief of the department, highly complimented the work of the firemen in the very efficient manner in which they fought the fire and brought it under control before it swept through other sections of the plant.

The company estimated their loss at approximately $750,000. The duration of the fire was 17 hours and 55 minutes.

WILLIAM E. PATTERSON.

WHAT'S BURNING

From reports covering the United States and Canada the estimated losses by fire during the week ending June 11, 1926, aggregated $4,173,000 as compared with $5,907,000 for the corresponding week in 1925. The total is derived by adding to the amount in the list given, which includes only those of $25,000 loss and over a sum equal to thirty per cent of that amount, statistics showing that the smaller fires average about that proportion of the larger. Losses for the week ending June 18 following their right order.

The figures published in this list, compiled from telegraphic reports of fires occurring during the weeks are based on estimates made at the time which are necessarily hurried and are subject to latter investigation and consequent correction. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

KNOXVILLE, TENN.—Building at 8 West 21st Street..... 60
SAN FRANCISCO, CALIF.—Ewing Ball Park and surrounding residences 150
HARRISONBURG, VA.—Three business establishments destroyed 30
PALMYRA, N. Y.—Home of C. B. McLouth destroyed..... 35
PINE BLUFF, ARK.—Sawmill of Graves Brothers—ten miles west 25
CARROLLTON, GA.—Four business houses..... 30
MEDINA, OHIO.—Plant of A. I. Root Company..... 60
KLAMATH FALLS, ORE.—Frame building housing business concerns 25
ALLENTOWN, PA.—Plant of Ochs & Frey Brick Company destroyed 60
HILLTOP, PA.—Planing mill, store, residence and apartment house 30
KERSHAW, S. C.—Business establishments..... 140
CHICAGO, ILL.—Harris Brothers Company store..... 40
HIGHLAND, OHIO.—Home of Miss Grace McColloch..... 40
HELENA, ARK.—Lumber yard of Perkins Brothers..... 80
PERRY, GA.—Plant and lumber yards of Clinchfield Lumber Company 40
JACKSON, MICH.—Plant of American Vitrified Products Company 250
ROCKFORD, ILL.—Clothing store in Armstrong Bldg. and adjacent property 25
HOCKING, OHIO—Engine and Power House of Essex-Statler Coal Mine..... 80
IMBLER, ORE.—Two warehouses and grain elevator destroyed. 80
PORT HURON, MICH.—Egyptian Portland Cement Company 50
MINNEAPOLIS, MINN.—Two junk metal shops and adjoining property 25
CAMPBELLBURG, KY.—Principal business block destroyed 40
NEW MARTINSVILLE, W. VA.—Residence of Mrs. Lucy Standiford 60
NEWARK, OHIO.—Large barn on farm of A. B. Crawford 50
DANVILLE, ARK.—Five business establishments destroyed 25
TOLEDO, OHIO.—Storage yards of Union Cedar Company 40
BERKELEY, MICH.—Fire station destroyed 30
SUFFOLK, VA.—Main plant of Montgomery Lumber Company 120
KNOXVILLE, TENN.—National Building, in business district.. 120
BANGOR, ME.—Aroostook House destroyed, adjoining property damaged 40
NEW ROCHELLE, N. Y.—First Presbyterian Church destroyed. 50
KINGSTON, TENN.—Four business houses and three residences. 30
WAYNESBORO, PA.—Tipple at Maple-Sterling Coal Mine..... 35
NEWBERRY, MICH.—Community Building..... 125
WOBURN, MASS.—Building owned by Gustavus Tile Company 25
HINGHAM, MASS.—Broad Cove Inn destroyed..... 30

Four Volunteer Departments Fight Big Village Fire.

A fire which destroyed three buildings—a hotel, business block and the village hall—in Earlville, N. Y., was fought by the local fire department, assisted by those of Hamilton, Sherburne and Norwich. Sherburne and Hamilton, according to Chief Vance E. Avery, of Earlville, each sent a motor chemical and Norwich an American-LaFrance pumper. The Norwich pumper arrived last and prevented the spread of the fire to the electric light plant. The two views are furnished through the courtesy of Chief Avery.

STONY CREEK, MICH.—Parochial School of St. Patricks Catholic Church 40
ESTO, KY.—Three business establishments and two homes destroyed 25
GALESBURG, ILL.—Two elevators, 2 manufacturing establishments and 7 homes destroyed 200
BEDFORD, PA.—Hoffman House destroyed 120
PAWNEE CITY, NEB.—Bogle Building 38
LOUISVILLE, KY.—Farm bldg. of J. Wurtile 27
TAMPA, FLA.—Grain warehouse of Jackson Grain Co. 25
LOWELL, MASS.—Four-story brick business block of S. H. Harrison Co., damaged 195
YAZOO CITY, MISS.—Yazoo Spoke Co. plant 25

From reports covering the United States and Canada, the estimated losses by fire in the week ended June 18, 1926, aggregated $4,179,500, as compared with $6,893,700 for the corresponding week in 1925.

CONWAY, ARK.—Business buildings damaged 30
COAL CITY, ILL.—Plant of Somerville Machine Company destroyed 50
RICHMOND, VA.—Plant of Virginia-Carolina Rubber Company destroyed 80
ASHLAND, VA.—Savage Building, 15th Street & Winchester Avenue 25
WILKES-BARRE, PENNA.—Three story building destroyed 150
STRONG, ARK.—Car Tanks containing crude oil burned 40
CLEMSON COLLEGE, S. C.—Engineering Building of Clemson College 250
BELMONT, MISS.—Plant of J. E. Clement Lumber Company destroyed 40
WHITTIER, CALIF.—Five business establishments destroyed .. 180
CHAMPAIGN, ILL.—Bacon Paint Company store 80
EDWARDSVILLE, ILL.—Property of Blake Milling Company destroyed 60
HICKORY, N. C.—Garage and three school busses 50
MONTOURSVILLE, PA.—Plant of Montour Furniture Company 70
STORRS, CONN.—Summer hotel owned by Michael Oscrossky destroyed 25
DULUTH, MINN.—The Fair Department Store, West First Street 50
HANSBORO, N. DAK.—Three elevators and ten freight cars destroyed (estimate on elevators and grain only) 60
LOGANSPORT, IND.—Storage house of Logansport Ice Cream Company 80
PEQUOT, MINN.—Three buildings destroyed 25
ELIZABETH, N. J.—Saw mill owned by J. G. St. Dennis destroyed 30
READING, PENNA.—Home of Mrs. Matilda Koehler destroyed 40
BLYER, PENNA.—Dwellings destroyed 30
CONTACT, NEV.—Fairview Hotel destroyed 25
MULVANE, KANS.—Condensing plant of Pet Milk Company .. 40
FREMONT, KANS.—Swedish Lutheran Church destroyed 40
PAWNEE, NEB.—Brooks Store and adjoining establishment .. 30
ROSWELL, GA.—Roswell Mill, Inc., destroyed 300
CLAYMONT, DEL.—Barn on J. Ed. Eddick's farm destroyed ... 25
TAMPA, FLA.—Warehouse of Tampa Furniture Company 40
BUFFALO, N. Y.—Building at 17 Main street owned by Daniel Mahoney 40
EGG HARBOR CITY, N. J.—Building owned by Liberty Glass Company 100
SAN FRANCISCO, CALIF.—Tubbs Cordage Company damaged. 70
ESTES, PARK, COLO.—Home of F. W. Byerly destroyed 25
BROOKLYN, N. Y.—Minerva Dress Shop, 1027 St. John's Place 25
LAWTON, OKLA.—Ordinance Warehouse at Fort Sill destroyed 400
POTTSTOWN, PENNA.—Trinity Reformed Church destroyed .. 180
WESTON, MASS.—Weston Airdrome destroyed together with 18 planes 30
BRIDGEPORT, CONN.—Garage and two warehouses 80
HAMMOND, IND.—Four coal silos owned by Beckman Supply Company 80
MIDLAND, WASH.—Mill of Midland Lumber Company destroyed 60
ESSEX, CONN.—Stock of Essex Paint and Chemical Company .. 30
WILKES-BARRE, PENNA.—Several business establishments, S. Main Street 150

Fight Flames on Top Skyscraper

A stubborn fire on the twentieth floor of the Remington building in New York city, which is under construction, gave the firemen some trouble, as the fire stream could not reach above the sixteenth floor. The new building did not have the standpipe installed, and the responding fire company did not have sufficient hose. To add to the difficulties, permanent stairs were not yet in place.

A line of hose was connected to the standpipe of the Elks' Club in the rear of the burning building and the hose was hoisted into position to the structure on fire.

Awarded Medal for Saving Cat—A Pittsburgh, Pa., fireman was awarded a medal by the Western Pennsylvania Humane Society for saving a cat and five kittens at a fire in December at the risk of his own life.

Brawley, Cal., Has Fire Tests—Three houses constructed specially for fire demonstration purposes were set afire in Brawley, Cal., to demonstrate the value of fireproof measures. The home which was constructed of ordinary lumber and painted with ordinary paint, could not be saved; the one constructed of ordinary lumber and treated with fireproof paint was saved; the home constructed of fireproofed lumber and painted with fireproof paint, did not burn.

New York Fire Chiefs' Convention

(*Continued from page* 614)

which they were entertained by music and vaudeville. Chief John Kenlon arrived about 3:30 on June 17 and addressed the delegates. In the evening the chiefs and their wives attended the banquet of the city officials at the Hotel Van Curler.

Those Present at the Convention

Those present at the convention were as follows:

*C. Baker, Frankfort
*Geo. Bower, Rome
W. J. Burke, Eureka Fire Hose Co., Syracuse
Ex-Chief John Carlson, Depew
*C. H. Casey, Troy
*C. E. Choate, Oneonta
*Corbett, Watervliet
*W. J. Couser, Greenwich
*E. J. Coyle, Lockport
*A. Derra, Schenectady
*G. A. Eagan, Sherrill
*F. H. Ernenwein, Oneida
*John Espey, Elmira
A. C. and J. A. Fancher, Binghamton
*C. G. Fisher, Ellenville
*M. J. Fleming, Albany
*W. G. Gaffney, Watertown
*W. J. Gates, Glens Falls
*John Gibson, Mt. Vernon
Robert Hazzard, American-La-France Fire Eng. Co., Elmira
G. S. Hook, Schenectady
*A. Howard, Ogdensburg
*F. Jaynes, Rochester
*John Kenlon, N. Y. City
*Monte Lass, Oswego
*A. H. Lyons, Binghamton
*McGuigan, Geneva
*R. A. Maxon, Gloversville
*Fred Neis, Salamanca
*C. W. Noll, Poughkeepsie
*T. J. O'Connor, Gen. Elec. Co., Schenectady
Ex-Chief T. H. Patten, Northside
Ex-Chief R. Pursell, Kingston
*E. A. Rice
*F. Ryska, Lackawanna
*E. J. Shadwick, Saratoga
*J. N. Sullivan, Utica
A. L. Tinker, Gamewell Co., N. Y. City
*H. A. Vincent, Herkimer
Asst. Chief Voelker, Sherrill
*W. H. Wayand, Scotia
F. W. Wilson, American-La-France Fire Eng. Co., Elmira

* Chief Fire Department.

"Fire Hero" Guilty of Arson Charge

A man who lost his life in a rooming house in Hamlet, N. C., while attempting to rescue others who lived there and who for a while was given posthumous honors as a fire hero, has, in the light of recent evidence, been branded as one guilty of committing arson.

It is stated that prior to the fire, several shots were fired, and in all probability murder was committed. The lodging house did not have too good a reputation, and was known locally as a "tough joint." One of the people there was known to have a great deal of money, and it was believed that this prompted the murder act and later caused the building to be set on fire in order to destroy the evidence. The culprit attempted to play the part of the hero in order to divert all suspicion from him. It was while he was carrying the third party to safety that he fell down to the porch and was burned to death.

D. G. SPENCER.

Forest Fires in Two Eastern States

Two forest fires of rather large proportion occurred in the east end of Long Island, New York, and in woodland section of Monmouth and Ocean counties, New Jersey.

On Long Island, the fire destroyed an area of over two hundred square miles in Suffolk county. Many of the people in the immediate vicinity had their baggage all packed preparatory to making immediate flight from the onrush of the fire. The fire fighters were aided in conquering the flames by a light rain during the night.

Thousands of acres of forest land were destroyed in the section about the west shore of Barnegat Bay, New Jersey. Many dwellings were destroyed near the township limits of Lakewood. It was estimated that thirty-five homes were destroyed as the fire advanced from Lakehurst to the bay. The heaviest loss was at Adamson where an entire village was wiped out. Travel on the Lakewood-Atlantic City was held up because of the flames which burnt one side of the highway and leaped across the road to the other side.

William A. L. Blazeley, state commissioner of conservation of Massachusetts blames petting parties for many of the forest fires. Cigarette butts left behind by automobile parkers have caused many of the one hundred forest fires in that state in a period of three days.

Foam to Protect Naval Fuel Depot—A contract has been awarded to the Amdyco Corporation of New York for the installation of a foam fire protection system at the U. S. Naval Fuel Depot at Yorktown, Pa.

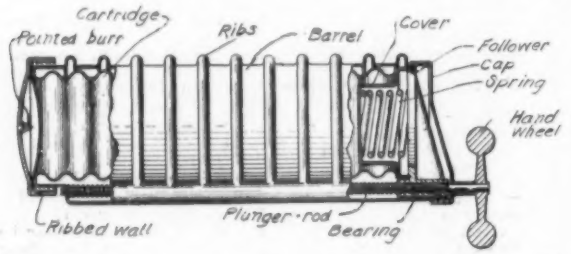
Recent Patents

Descriptions of Patents Recently Issued of Interest to Fire Departments—New Hand Fire Extinguisher—Fire Hose Connection

Fire Extinguisher

Improvements in the hand operated type of fire extinguisher have been patented (No. 1,581,540) by Charles L. Paulus and Robert Kauch of Dayton, Ohio. The object of this design is to provide a compact extinguisher that is easy to operate and may readily be refilled. Another object is to provide a form of refill cartridge,

The illustration shows a longitudinal section of the fire extinguisher constructed along this design. The extinguisher consists of a barrel made of sheet metal with reinforcing ribs extending annularly at spaced intervals along the length of the barrel. One end of the barrel is closed by a cap through which a plunger rod extends into a barrel along one side of it. The rod is rotatable at its inner end and at its outer end, where it projects from the cap, it is received in another bearing in the cap; the two bearings serve to hold the rod against endwise movement in the operation of the extinguisher.



A hand wheel is fastened on the rod outside of the barrel for manually rotating the barrel. The plunger rod has steep threads to communicate movement to a plunger or follower. This follower has a bearing at one side of the barrel in which the rod threads. To assume the thrust of the follower in the turning of the screw threaded plunger, a rib or ribs are provided on the back of the follower extending from the bearing.

The follower operates to compress a collapsible container or cartridge in the barrel. The cartridge has ribbed walls of thin soft metal which enables it to collapse readily under pressure. The inner end of the cartridge is sealed by a depressed cover which serves as a socket for a compression spring acting between the cartridge and the follower. This spring secures an even discharge of the liquid and also serves as a buffer between the cartridge and the follower, thus permitting expansion and contraction. The bottom of the cartridge is bulged inwardly, and when acted on by the pressure of the liquid, the bottom bulges outwardly. In this position it comes in contact with a burr which punctures the bottom of the cartridge, and the fluid is expelled. The bottom of the cartridge is soldered or joined with the side walls of the cartridge to form a flange. By unthreading the cap and removing the old cartridge, a new one may be inserted.

Fire Hose Connection

A patent (No. 1,578,957) has been issued to Ray G. Coates of Pasadena, Cal., for his design of a device that will enable the suction and discharge hose lines to be connected to a hydrant so that it will be unnecessary to disconnect the fire hose while making the connection of the suction and the discharge with the hydrant.

The practice at present in many of the departments is for the engine to go to a designated hydrant, and for a man to drop off with the end of the hose, and then run from the hydrant toward the fire, laying the hose as he goes. The one having the end of the hose connects it with the hydrant. This device is intended to eliminate the time lost in making the change while laying the hose.

A sectional view of the device is illustrated, the checkvalve being shown in one position in solid lines, and in another position by broken lines.

The connection consists of a chamber having an inlet for connection with the hydrant, an outlet for connection with the suction hose, and an outlet through which the water may pass from the chamber.

The outlet is controlled by a manually operated valve adapted to close on a seat and the valve is operated by a valve stem threaded through a removable cover of the chamber. The stem has an operating wheel.

The discharge nipple screw of the hydrant has the customary threads and is connected with the threaded nipple in the usual manner.

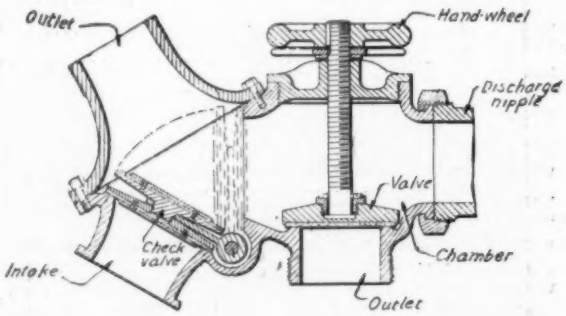
At the outer end of the discharge opening is a valve seat upon which is adapted an outwardly opening automatic check valve. In this particular instance the valve is pivoted at one side to the chamber so as to swing in an accurate path within a valve chamber which is provided with an intake and an outlet. The wall of the intake is integral with the chamber at the right.

The outlet has a screw thread to receive the usual hose coupling for connecting the fire hose with the said outlet. The outlet at the bottom is threaded to receive the coupling for connecting with the fire hose.

The intake is connected by the usual hose coupling to the pump discharge.

In operation, when the fire engine arrives at a fire, a fireman takes one end of the hose carried by the engine, on which end is the connection described above, and the fireman immediately makes connection with the inlet and the hydrant assuming that the valve is closed. The hydrant valve is then opened. The water enters the chamber at the right, and holds the valve against its seat and the water passes out through the fire hose. The water is under city pressure and the flow is substantially the same as would occur with the hydrant line connected directly to the hydrant.

Where greater quantities of water are required, after laying the hose to the fire, the engine is returned to the hydrant and the intake port is connected by the hose with the outlet at the bottom of the device. Also the pump intake will be connected with intake of the device at the lower left. The hydrant valve is opened and the pump started—the valve will swing from the position



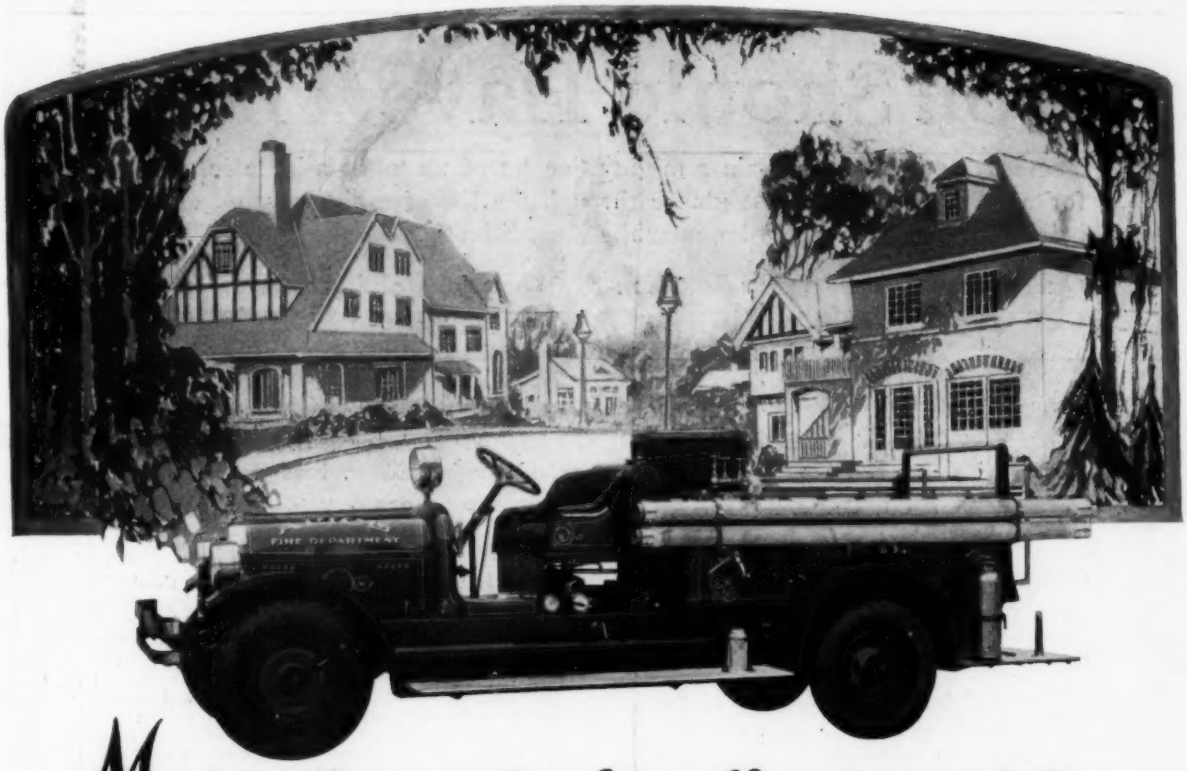
shown and will assume the positon shown by the dotted lines. When the pump is not operating, the valve will swing back to its former position.

J. W. Stevens Presented With Badge

J. W. Stevens, fire marshal of California and chief of the fire prevention bureau of the National Board of Fire Underwriters, was presented with a diamond studded fire marshal's badge by the members of the Los Angeles fire department.

He is now busy working as technical advisor on the picture being made by the Metro-Goldwyn studios and which will be sponsored by the International Association of Fire Engineers. The picture will star Charles Ray, May McAvoy and other prominent artists. A six-story building of considerable frontage is being erected to serve as one of the scenes of the picture. Mr. Stevens was further honored by membership in the "Breakfast Club" an exclusive organization of the motion picture interests of that city. He was presented with a membership badge with his name engraved upon the face and enameled in two colors. The badge is encased in a beautiful leather case.

Valley Junction, Ia., Purchases Fire Apparatus—The city council of Valley Junction, Ia., has purchased a fire apparatus mounted on a Reo chassis.



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- Large oil works;
- Motion picture film exchanges;
- Large refrigeration plants;
- Fiber and rag warehouses;
- Tall office buildings;
- Piano factories;
- Armory (during merchandise exhibitions);
- Large area celluloid merchandise factory;
- Seashore resort conflagrations;
- Large area "taxpayers;"
- Wholesale grocery stores and warehouses;
- Group-building fires;
- Theatres, schools, shoe and candy factories.

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OF INTEREST TO VOLUNTEER FIRE DEPARTMENTS

Further Light on the Liability of the Driver of the Fire Truck

55 Green Village Rd.,
Madison, N. J., June 3, 1926.

To the Editor:

I have just finished reading the article on page 523 of your May 25 issue regarding the liability of fire truck drivers for damages resulting from accidents, etc., caused by their negligence, and it put me in mind of a case which was decided (rather a coincidence) just a year ago today in the New Jersey Court of Errors and Appeals, that state's highest tribunal.

In that case, a report of which I am sending you, you will notice that a separate action was maintained against the fireman, and a verdict awarded against him, while the case against the city was dismissed. In your article you stated that to your knowledge no case had been decided in the higher courts which involved an individual fireman as a defendant, and as you seem to have covered the ground rather thoroughly, it would seem that this is the first case of that nature, and may be followed in other states in the future, should occasion arise.

You also stated that it was your opinion that a fireman would be liable for gross negligence — or at least his negligence would be judged from a different standpoint than that of an ordinary person.

The New Jersey case seems to hold, in that state anyway, that he is liable for ordinary negligence, just as anyone else.

Yours truly,
HENRY W. PILCH.

Antonio Florio and Vincenzo Citro, Plaintiffs-Appellants, v. The Mayor and Aldermen of Jersey City (A Municipal Corporation), Defendant-Respondent.

Antonio Florio and Vincenzo Citro, Plaintiffs-Appellants, v. John Schmolze, Defendant-Respondent.

Submitted March term, 1925 — Decided June 4, 1925.

NOTE.— Syllabus in this case has not yet been officially approved by the court.

Negligence — Municipal Employee — Driver of Fire Truck — Established That Municipality is not Responsible for the Negligence of its Employees Unless Active Wrong-Doing May be Charged, the Employee Acting Rather as an Officer — Liability of Employee — Employees are Officers — Public Officers Held Responsible for Their Negligence in Performance of Official Duties — Public Officer, in Performance of His Duties, Must do so in a Careful Manner and His Official Cloak will Not Shield Him Against Answering for His Wrongful Act — Motion Striking Out Complaint Will be Affirmed as to Municipality and Reversed as to Employee.

On appeal from the Supreme Court.

For the appellants, Anthony P. LaPorta.

For the respondent, Thomas J. Brogan (Charles A. Rooney, of counsel).

The opinion of the court was delivered by

Kalisch, J. The cases before us for review involve the legal questions as to the liability of a municipal corporation to a person injured through the negligence of its employee in the performance of a public duty, and as to the personal liability of such employee for his negligence in the performance of a public duty to a person injured by such negligence.

These questions arise from the pleadings. John Schmolze was a fireman in the employ of Jersey City. While driving a fire truck to a fire he negligently ran the truck against a horse and wagon in which the plaintiffs were seated and riding and by reason of the impact both of the latter were injured and damaged. The plaintiffs jointly brought separate actions, one against the municipality and the other against Schmolze, the driver of the fire truck. On behalf of the municipality and of Schmolze, notice was given to the plaintiffs of a motion to strike out the complaints in that neither stated a legal cause of action. This matter came on for a hearing before Mr. Justice Minturn, sitting for the Supreme Court, at chambers, who struck out both complaints upon the ground that neither stated a legal cause of action, and gave judgment for each defendant accordingly. The cases were consolidated on the appeal to this court, and are argued together in the briefs of counsel of the respective parties.

The notice to strike out the complaint being in the nature of a demurrer, the fact of negligence is conceded, and the questions to be solved are — 1. Is the municipality answerable to the plaintiffs for the negligence of its employees? 2. Is Schmolze, he being a servant of the city, and in the performance of a public duty, answerable to the plaintiffs for the consequences of his negligent conduct?

First, as to the liability of municipality for the tortious act of its employees.

It seems that this is no longer an open question in this state. That a municipality cannot be properly called upon to respond in damages to a person injured through the negligence of its employees is too well settled to need any lengthy discussion on the topic. It was the common law rule and is the adopted legal rule in this state. This court in Condict v. Jersey City, 46 N. J. L. 157, held that a municipal corporation is not liable for an injury occasioned by the negligence of a driver employed by its board of public works to remove ashes and refuse from boxes and barrels placed on the sidewalks to a public dumping ground, though the driver was at the time driving a horse and cart owned by the city, and his negligence was in making a dump from the cart. Mr. Justice Depue (at p. 159) cites Jewett v. City of New Haven, 38 Conn., 368, a well considered case, in which it was held that a municipality was not liable for the negligence of the members of its fire department.

In Hafford v. City of Bedford, 16 Gray 297, Chief Justice Bigelow (at p. 302) says: "The members of the fire department at New Bedford, when acting in the discharge of their duties, are not servants or agents in the employment of the city, for whose conduct the city can be held liable, but they act rather as officers of the city, charged with the performance of a certain public duty or service; and no action will lie against the city for their negligence or improper conduct, while acting in the discharge of their official duty."

Stress is laid by counsel of appellants on the case of Olesiewicz v. Camden, 2 N. J. Adv. R. 1626, decided by this court, and not yet officially reported in the state reports, as upholding the contention that a municipality is liable for the negligence of its employees. But a fair reading of what was there decided does not land any support to the appellant's contention. The active wrong-doing must be chargeable to the municipality in order to render it liable, e. g., where a municipality directs its employee to dig a hole in a public highway and leaves it unguarded, or participated in some other act of misfeasance of its employee through which a person suffers injury. Jersey City v. Kiernan, 50 N. J. L. 246, 250; Hart v. Freeholders of Union, 57 Id. 90; Kehoe v. Rutherford, 74 Id. 659; Doran v. Asbury Park, 91 Id. 651; Cochran v. Public Service Electric Co., 97 Id. 480, sufficiently and clearly illustrate the conditions under which a municipality may be held liable for negligence to a person who has suffered an injury.

Since the doctrine of respondent superior does not apply to actions against municipalities for the negligent act of their servants, therefore, under the facts of the present case, the municipality incurred no legal responsibility for the negligent act of Schmolze. The court was right in striking out the complaint.

We now approach the consideration of the question whether Schmolze, being a servant of the city in the discharge of a public duty, can be properly held liable for the consequences of his negligent act in the performance of such public duty.

In Oliver Nowell et. ux. v. Wright (Mass.) 3 All. 166, Mr. Justice Dewey (at p. 167) very aptly remarks: "It may be a delicate, if not a difficult task, to mark with precision the line of discrimination between the various classes of public officers or agents created by statute and whose duties are defined by statute, who may be held responsible to individuals in an action on the case, for injuries resulting from the improper execution of their official duties. That many such officers and agents have been so held responsible the adjudged cases abundantly show." In the cited case a tender of a drawbridge, appointed by the governor, with a salary, having full care and charge of the management of the bridge and draw, and of the lamps upon the bridge, was held liable for injuries sustained by a plaintiff who fell into the Charles River in the nighttime, through the negligence of the tender of the bridge in not shutting the gates and hanging out lanterns while opening the draw.

In Hall v Smith, 2 Bing. (at p. 159) Chief Justice Best says: "If commissioners under an act of parliament order something to be done which is not within the scope of their authority, or are themselves guilty of negligence in doing that which they

are empowered to do, they render themselves liable to an action, but they are not answerable for the misconduct of such as they are obliged to employ." Carrying out this declaration to a perfectly legitimate and logical conclusion, it, inferentially, indicates that those who are employed by the commissioners, and are guilty of negligence in doing that which they are entrusted to do, are answerable in damages to the persons injured by such negligence.

For if the commissioners can be held to respond in damages for their negligent act in the performance of their duty, there can be no good reason, in principle, why the persons entrusted to perform such duty by the commissioners should be exempt from liability for their negligent conduct.

Schmolze, the defendant below, was a servant of the city of Jersey City charged with the performance of a certain public duty or service, which was to drive a fire truck through the public streets to go to fires for the protection of property and oftentimes of life. This duty is concededly a highly important and grave function to perform. But it would be a travesty upon both law and justice to hold that, because of the gravity and importance of the duties cast upon him, he has become clothed with the privilege, while in the act of performing such duties, to thrust aside all ordinary prudence in driving along the public streets to the great hazard of life and limb of men, women and children of all classes and condition, who may be upon the public highway. He must answer for his negligence, though, in the performance of a public duty, in the same manner as if he were an individual in private life and had committed a wrong to the injury of another. The servant of the municipality is required to perform his duty in a proper and careful manner, and, when he negligently fails to do so, and in the performance of his duty negligently injured another, his official cloak cannot properly be permitted to shield him against answering for his wrongful act to him who has suffered injury thereby.

The principle to be extracted from the cases in our own state and in foreign jurisdictions where the common law prevailed appears to be for an injury resulting to an individual from a failure on care on part of a municipality or of a public officer invested with the performance of certain public duties no action will lie, for the reason that negligence that is nothing more than nonfeasance created no liability. Nor will an action lie against the municipality for negligent acts of misfeasance created no liability. Nor will an action lies against the municipality for negligent acts of misfeasance by the servants or agents of a municipality or a public officer performing duties strictly public, for the reason that for such acts of misfeasance in the performance of public duties by such servants or agents no liability attaches to the employee who is acting only as a representative of the government for the benefit of the public, and to which governmental relation the doctrine of respondeat superior does not apply.

But where the negligent acts of misfeasance are committed by the municipality, as, for instance, where a municipality, by artificial drains, to divert surface water from the course it would otherwise take, and cast it in a body large enough to do substantial injury on land where, but for such artificial drain it would not go, an action will lie. Also, where the work is not entirely public, but is, in part, for profit, or when any element of pecuniary advantage enters into it, liability is incurred by the municipality for the negligent acts of its servants. See Hill v. Boston, 122 Mas. 344, where Chief Justice Gray, in an elaborate opinion, reviews all the English cases, the cases in this and sister states, bearing upon the subject up to 1877. In Moynihan et. al. v. Todd, 74 N. E. Rep. 367, the defendant was superintendent of the streets for the town of Rowley, and at the time of the accident he was repairing a street, with others working under his direction and subject to his control. He directed that a boulder be removed by blasting, and just before the explosion he went away a short distance from it to be beyond the reach of the broken rock from the blast. The plaintiff was injured and brought action against the defendant. There appears to have been a verdict for the defendant. Chief Justice Knowlton, in a very elaborate opinion, held that a jury would have been warranted in finding that the defendant was personally negligent, and that would not relieve him from liability though he was acting as a public officer.

In 22 Rul. Cas. L. 162, § 162, the general rule laid down is: "Public officers, as a rule, are answerable to private persons for injuries resulting from the negligent performance of their municipal duties. For example, a registrar of deeds, being a municipal officer, is liable at common law, in the absence of an express statute, to an action for damages caused by his negligent performance of the duties of his office," &c. See Upton v. Slater, 83 N. J. L. 373.

There is a dearth of any express declaration by courts of this state on the subject relating to the liability of public officers and employees for their negligent acts. But in the case of the American Print Works v. Lawrence, 23 N. J. L. 590, this court (at p. 601) says: "It is enough for the decision of this case that we recognize the well-settled principle, that public officers, acting without private emolument in a matter of public concern, shall not be personally liable for the consequential injuries arising out of an act done by them under lawful authority and in a proper manner."

This is in harmony with the principle of the cases above referred to. The only legitimate inference to be drawn from the language used is that where the act done by the public officer is under lawful authority and free from negligent conduct he is absolved from liability, otherwise not.

Smith v Clark, 53 N. J. L. 197, was a case where an action was brought by the plaintiff Smith against Clark for false imprisonment. Clark was the receiver of taxes of the city of Newark. He delivered to his deputy certain warrants for taxes due to the city of Newark. The deputy at the time of making the arrest of the plaintiff did not have either of the warrants with him. The case came on for trial at the Esses Circuit, before Mr. Justice Depue, whose charge is reported in 13 N. J. L. J. 39. The facts are fully stated therein. No question seems to have been raised as to the legal propriety of the plaintiff maintaining his action against Clark for the wrongful act of his deputy. The learned judge, however, in his charge, expressed a doubt whether or not the action could be maintained against the receiver, but in order that the public questions involved in the case might be settled, he assumed, for the purpose of the suit, that it was properly brought. The result of the trial being adverse to the plaintiff, he sued out a writ of error and the cause came up for review by this court. It can hardly be inferred that upon plaintiff's writ of error the question of Clark's liability for his deputy's wrongful act could have been drawn into question. Chief Justice Beasley, in his opinion, says that the only question now necessary to decide is whether an officer can lawfully make an arrest by virtue of process which he has not with him at the time. The case was reversed on the declaration that no such arrest could be properly made. But there is a clear inference to be drawn from the case that the deputy tax receiver, a public officer, was liable to answer for his wrongful act to the party injured.

We think that a sound public policy required that public officers and employees shall be held accountable for their negligent acts in the performance of their official duties to those who suffer injury by reason of their misconduct. Public office or employment should not be made a shield to protect careless public officials from the consequences of their misfeasance in the performance of their public duties.

For the reasons stated the judgment entered in favor of municipality is affirmed, with costs, and the judgment entered in favor of John Schmolze is reversed, with costs.

In case of Jersey City—

For affirmance—The Chancellor, Chief Justice Parker, Kalisch, Black, Katzenbach, Campbell, Lloyd, White, Gardner, Van Buskirk, Kays, JJ. 12.

For reversal—None.

In case of Schmolze—

For affirmance—None.

For reversal—The Chancellor, Chief Justice Parker, Kalisch, Black, Katzenbach, Campbell, Lloyd, White, Gardner, Van Buskirk, Kays, JJ. 12.

Fixes Speed of Fire Apparatus in City

The board of trustees of Santa Monica, Cal., has fixed the speed limit of fire apparatus operating on the main highways, at 20 miles an hour, in the balance of the business section, it is 25 miles an hour, and in the balance of the city, it is set at 30 miles per hour. This measure was taken following an accident which occurred in Los Angeles recently when eight people were injured in a crash between fire apparatus and an automobile.

Chief Canfield in commenting on the action of the trustees, said: "The first two or three minutes are the most valuable of all in combating a fire, but I approve the action of the Board of Trustees because I believe it will make for greater safety and better co-operation between this department and the people of Beverly Hills."

Chief Canfield pointed out, however, that it is customary in other cities to permit the lighter chemical car to exceed the speed limit imposed on the large trucks, and declared that there is little more danger in driving the smaller type at a fast rate of speed than there is with the ordinary touring car, especially after passing beyond the actual business district.

San Leandro, Cal., to Reorganize Department—A survey is being made of conditions in fire departments in order to reorganize the fire department of San Leandro, Cal. The chairman of the fire commission will visit Oakland, San Francisco and other departments.

BUFFALO

Combination Chemical and Hose Equipment on Larrabee chassis sold Greenwood, Pa. Has two 40-gal. chemical tanks and 1000-ft. hose capacity.

Small Towns, Suburban and Rural Communities Turn to Buffalo for Their Fire Apparatus

When in the market for new equipment it will pay to bear in mind that we are doing more and more business with small towns, suburban and rural communities that require special built-to-order dependable equipment at a moderate initial cost with freedom from high repair and maintenance charges.

We are especially qualified for a number of reasons to provide apparatus of this type. Buffalo apparatus is designed by experienced fire apparatus engineers in conjunction with local fire officials to meet the particular needs of the town or community making the purchase. Every piece of apparatus is fully guaranteed. A standard commercial chassis is selected for the body equipment required. This provides dependability together with convenient and economical service facilities and reduces the cost of the apparatus.

It is significant that Buffalo apparatus is making-good and making friends wherever placed in service. Buffalo apparatus is built by skilled workmen in a new modern manufacturing plant of the finest materials money can buy. You get high-grade equipment when you order Buffalo apparatus.

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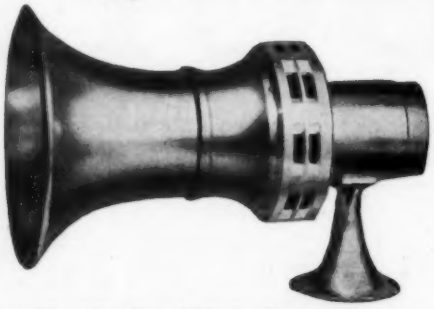
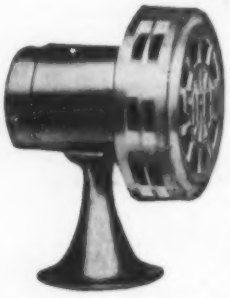


Their Penetrating, Siren Tone Can't Be Mistaken



The distinctive far reaching warning of Sireno electric sirens will open up the heaviest traffic far ahead for your speeding apparatus. They will prevent collisions and costly delays in reaching fires, and so protect your men from accidents and help you cut down fire losses.

There is a Sireno of the right type and size for every fire department need—for heavy apparatus, chiefs' cars, motorcycles, and street traffic control.

Back of every one of these Sireno electric sirens is over 17 years' experience in designing and manufacturing small electric sirens exclusively. Their distinctive and penetrating sound, compact design and rugged construction have made them standard for fire department service for many years. It will pay you to replace old sirens with Sirenos and to order them on all new apparatus.

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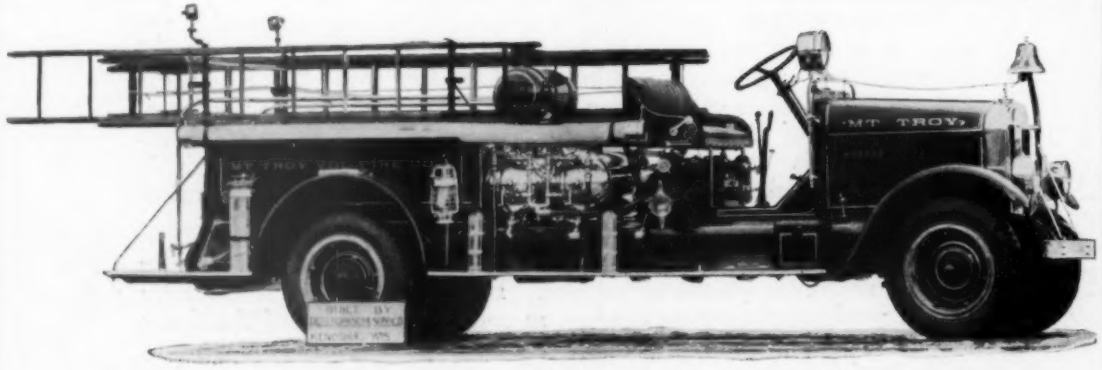

This is the "Pirsch-Special" 500 Gallon Pumper. Passed the National Board of Fire Underwriter's 12 hour test, delivering 508 Gals. at 124 pump pressure with motor speed of only 1669.

"General Remarks": "Engine ran smoothly. Easily delivered quantities at necessary pressure and was in good condition at end of test."

We are proud of this record and performance and would like to tell you more about it. Write us for details. Our thirty years exclusive fire apparatus experience backs our product.

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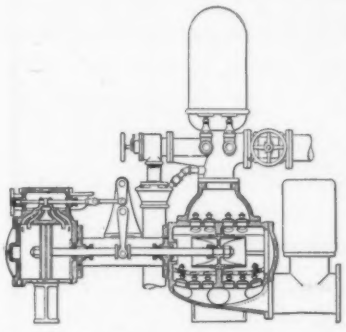
The Care and Maintenance of Fire Pumps

By EZRA E. CLARK, *Engineer.*

When we spend our money for a machine to manufacture goods, we intend to keep it in perfect order, so that its full output may be always realized. We mean to do just that.



Longitudinal Section of Underwriter Steam Fire Pump.

Commonly used where steam power is reliable. Capable of adjustable speeds and a large range of pressures and capacities. Adaptable for difficult suction lifts.

But being human we are liable to permit a machine not in daily use to lose its best efficiency, even neglecting at times to make slight but needed repairs. When that machine happens to be the fire pump, which produces no goods and is seldom called upon for real service, then it is that the best of intentions sometimes fall down and the pump is found out of order at the time of the inspector's visit, or in the emergency of a fire.

Someone should have the responsibility of keeping a plant's fire protection appliances in order. Divided responsibility is dangerous. When one department takes care of all the motors and another department takes care of all the pumps, then the motor-driven fire pumps is subject to a divided responsibility. In a recent case this resulted in a melted-out pump bearing.

The most important feature to be cared for in fire pump equipment is the water supply. Is it adequate? Are the screens protecting the intake free of obstructions, and do they completely protect the intake? The best pumping equipment in the world may be put out of commission by some fault or neglect at the intake end.

Next is the source of power. Is this adequate? Is there ample steam, feed-water, water power, electric current, or gasoline, for the respective pumps under consideration?

Steam Pumps

The maintenance of a reciprocating steam fire pump does not require a high degree of skill, unless an overhauling is needed. One should become familiar with its design and learn how to get at every part. The writer has seen master mechanics surprised to find rubber valves in the "head end" as well as the "yoke end" of water cylinders. Valves and springs should be examined periodically, and a few removed for critical observation. Leaky valves will cut down the discharge and sometimes delay the priming of the pump. Keep spare valves and springs on hand, and replace promptly any defective ones.

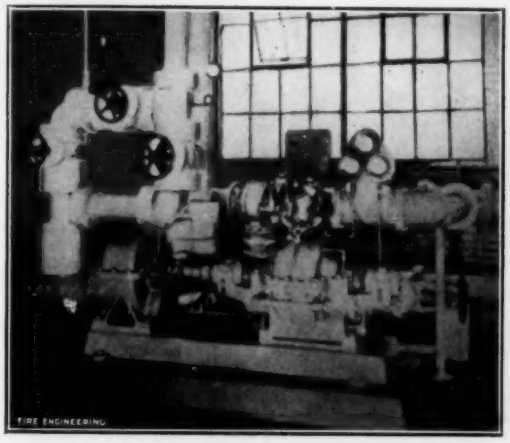
The plungers and bushings may need refitting. Unless this wear exceeds one-sixteenth of an inch in diameter, the resulting slip may be offset by a slight increase in speed. A considerable lift, however, may necessitate refitting before reaching this amount of wear.

The lubrication of the working parts must not be overlooked. Adjust the stuffing boxes, to secure substantially equal friction load beween the two sides of the pump. Whatever rod packing may be adopted, it should never be forced in tight, but left sufficiently loose to permit a slight escape of steam or water. When operating pump, open proper vents to get rid of all air, except a few gallons in top of air chamber. This will aid materially in preventing vibrations in piping.

Another type of pumping unit driven by steam is the turbine driven centrifugal pump. The care of the bearings is as essential for the turbine as the pump, the maintenance of which is discussed under the heading of centrifugal pumps.

Rotary Pumps

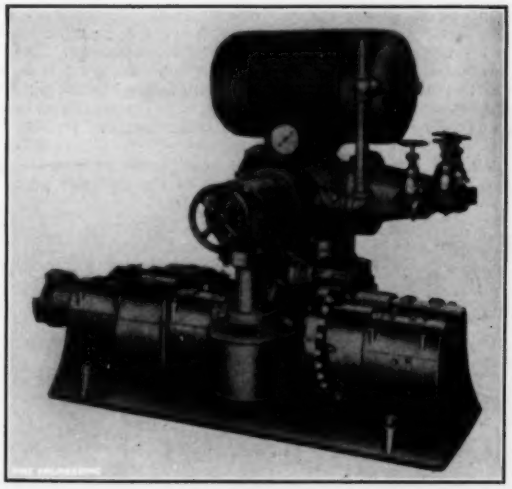
Rotary pumps are simple to care for, because of fewer parts. Periodic attention is needed, however, to their stuffing boxes to prevent leakage, and to their bearings to secure adequate lubrication. Neglect of these features will often result in a rusted shaft or an overheated bearing. It is the hot bearing that shuts down the pump. If driven through friction gears from a water wheel,



Steam-Turbine-Driven Centrifugal Fire Pump.

This unit requires a higher steam pressure than the Underwriter pump. It is capable of adjustable speeds but is not adaptable for difficult suction lifts.

the gears should be kept in alignment, and their surfaces maintained free of oil or grease. A protecting hood helps to keep them clear. The friction clutch drive is good only when its shoes



Rotary Fire Pump.

This pump is commonly used where a reliable water power can be utilized through a simple drive.

are kept properly adjusted, and not allowed to wear out. This maintenance of the driving connection is of first importance.

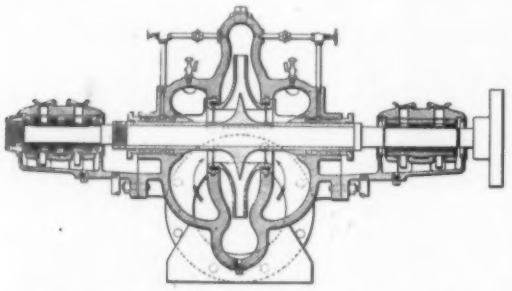
Rotary pumps driven from a gasoline engine are common in fire engine equipment, but rarely as mill fire pumps, as the cost would be excessive—compared to the centrifugal—even when driven direct. The rotary, however, would have the advantage of self-priming for ordinary lifts.

Centrifugal Pumps

With centrifugal pumps, generally driven by electric motors, first attention must be given to stuffing boxes and lubrication of

pump and motor bearings. For absolute reliability, centrifugal pumps should take water under a head. Where this is not possible, very reliable priming arrangements must be provided. These may consist of a foot valve and priming tank, with preferably a second means of priming, such as a vacuum pump or exhauster, to exhaust the air from the suction pipe and casing, and thus completely fill the suction pipe and pump with water. The exhauster should be driven from the same source of power that drives the pump.

It should be the invariable rule to first prime the suction pipe and pump casing with water before starting the pump. Otherwise



Longitudinal Section of Centrifugal Fire Pump.

A centrifugal fire pump can be driven by electric motor, steam turbine, or gasoline engine, the choice to be determined by the relative reliability. Pump casing must be flooded before starting.

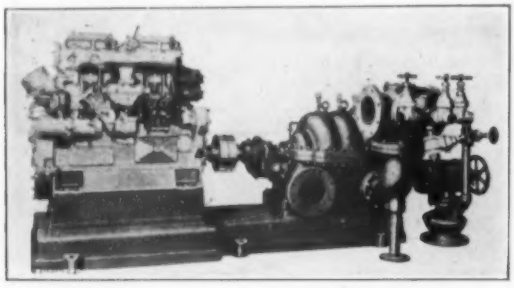
the wearing rings between impeller and casing are liable to seize or abrade and prevent the operation of the pump. This has actually occurred in several instances. This type of pump even more than other types demands that its water supply be screened, as it gives no indication of a choked impeller until a considerable flow of water is demanded. A small obstruction in the impeller cuts down the discharge very materially.

Electric motors should be carefully guarded against water splashing from pump. A non-combustible shield erected between the motor and the pump will protect against this.

The gasoline engine driven centrifugal fire pump, where skilled attendance is assured, can give excellent service. Here again does the character of maintenance determine whether or not the equipment will be reliable.

There is no fundamental difference between a gasoline engine driven fire pump and a fire department gasoline pumper. But the latter receives a high order of care and maintenance. It is not allowed to run down. It is kept tuned up to the highest pitch of performance by constant supervision. It must operate when called upon any minute of the day or night, and frequent tryouts are made to reveal any deficiency.

With a mill fire pump, however, this high order of maintenance is more difficult to secure, for the care of the mill fire pump is



Gasoline-Engine-Driven Centrifugal Fire Pump.

The independent power unit makes this arrangement adaptable where other sources of power are not readily available. It requires constant supervision.

not the sole business of the man in charge. He has other duties, and the importance of the fire pump may not have been stressed upon him. At one mill the mechanic in charge overlooked the cooling water for the cylinder jackets, and the cylinders overheated and were badly scored. A mechanic at another plant borrowed the distributor from the engine to try out on his automobile, thus crippling the fire pump service. At still another plant, the man in charge was not sufficiently skilled to know when the storage battery was run down. Too often men are assigned to the care of such pumps who are either not sufficiently trained or who are lacking in that enthusiasm and sense of responsibility that makes the gasoline pumper the dependable machine it is today.

This type of pumping equipment when installed in a mill should also be frequently operated, and kept tuned up, to give assurance that the numerous devices about the engine are in working order. Unless proper supervision can be secured, it is better, when other power is available, to adopt one of the simpler types of pumping unit, of rugged construction, that will stand abuse, and that will function even in the hands of an unskilled man.

Unable to Check Fire Beneath Pier

(*Continued from page* 615)

These were placed in operation and in addition to the companies already on the scene were able only by the most energetic work to prevent the fire from completely destroying the shipping offices at the land side of the pier.

The entire pier shed with its contents was destroyed, and the pier itself was burned away. The pier offices were built on a stone foundation which probably accounted for the fire being held from involving this building. Had the pier extended beneath this building nothing could have saved it.

The Editor's ideas on the handling of this fire will be given in the next issue of this journal.

Officers, Massachusetts Chiefs' Club

The annual meeting of the Massachusetts Fire Chiefs' Club of Massachusetts was held at Boston, Mass., on May 19, with a large attendance.

The election of officers resulted as follows:

President, Chief Patrick J. Hurley, fire department, Holyoke, Mass.
First Vice Pres., Chief Selden R. Allen, fire department, Brookline, Mass.
Second Vice Pres., Chief Charles H. French, Chief Eng., fire department, Manchester, N. H.
Board of Directors: Chief Alfred L. Mead, Quincy, Mass.; Chief Thos. W. Mahoney, Westfield, Mass.; Chief Charles H. McCarthy, Worcester, Mass.; Ex-Chief J. L. Sullivan, Plymouth, Mass.; Ex-Chief Howard H. Upham, Needham, Mass.
Auditing Committee: Chief Thomas A. Qualey, Medford, Mass.; Chief Daniel A. Tierney, Arlington, Mass.; Chief W. H. Hill, Belmont, Mass.
Secretary and Treasurer: Ex-Chief A. Howard Fiske, Framingham, Mass.
Sergeant at Arms: Ex-Chief Frank O. Whitmarsh, Braintree, Mass.

Book on Outbreak of Fires

An interesting book on the "Outbreaks of Fire, Their Causes and Means of Prevention" by S. G. Gamble has been published by Charles Griffith & Co., Ltd., London.

The author of the book has been second in command of the London Fire Brigade for twenty-six years and is a member of a number of firemanic organizations on the continent.

The book covers the subject-matter thoroughly—the chapter on the history of the development of fire apparatus is the best that has come to our attention. The first chapter of the book treats of the physics and chemistry of the three elementary branches of air, fire and water. There are chapters dealing with law—the formation and management of brigades, and conducting inquests; water supply and hydrants; causes of fires; ship fires; explosives and explosions; insurance.

The third part of the book deals with material and personnel. The subjects treated include fire stations, notification of fire, fire alarms and sprinklers, pumps, hose, hand appliances, discipline and health, fighting a fire and salvage work. It treats of the private and industrial brigades, the prevention of panic and the construction of buildings.

While the book has been written from the viewpoint of the continental fire-fighter, it should be of interest to the American fireman. The book retails for $12 by the J. B. Lippincott Co., Philadelphia.

Fire Extinguisher Law Introduced

A law providing for the installation of fire extinguishers in tenement houses in New York, was introduced by Alderman Joseph Reich. The text of the ordinance is as follows:

Be it enacted by the Municipal Assembly of the City of New York that within ninety days after this local law takes effect, each owner of a tenement house shall cause to be placed and kept in an accessible place on each floor a fire extinguisher of such size, power and type as the tenement house commissioner may determine. Violation of the provisions of this section shall constitute a misdemeanor.

W. J. DALY.

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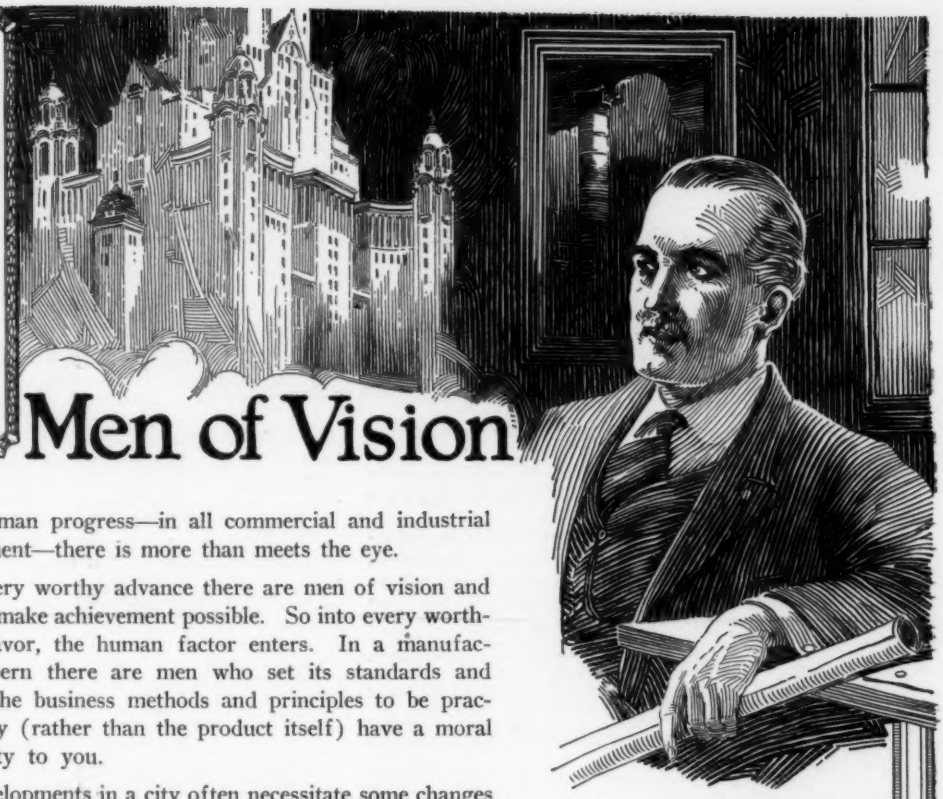

Men of Vision

IN all human progress—in all commercial and industrial development—there is more than meets the eye.

Back of every worthy advance there are men of vision and ability who make achievement possible. So into every worthwhile endeavor, the human factor enters. In a manufacturing concern there are men who set its standards and determine the business methods and principles to be practiced. They (rather than the product itself) have a moral responsibility to you.

Future developments in a city often necessitate some changes in street grades. That is why city engineers and municipal authorities—men who visualize future developments—invariably specify Darling Fire Hydrants.

With an extension section of any desired length, from 6″ to 60″, inserted between the lower barrel flange and the base flange, Darling Fire Hydrants can be altered to take care of raised street grades or a fill-in in a simple, inexpensive and practical manner.

Since it is becoming common practice to choose one type of hydrant for the entire equipment, this exclusive Darling feature justifies your investigation of many other desirable points of Darling Hydrants.

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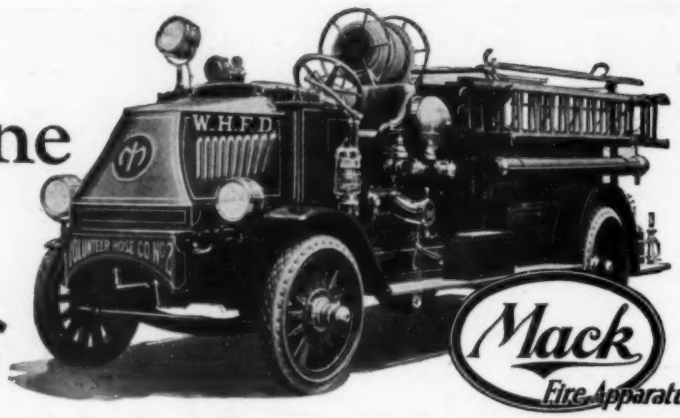

Mack Fire Apparatus

WITH the purchase of this Mack AC-3 Triple Combination Pumping Engine, Chemical and Hose Car, West Haverstraw, New York, secured the ideal piece of apparatus for a community that must depend upon a few fire fighting units for protection.

Built to the exacting standards which have earned the Mack Truck dominance in highway transport service, Mack Fire Apparatus has gained a preferred position in the largest fire departments throughout the country. The complete line includes:

AB Models

Type AB-1 Combination Chemical and Hose Car (One or two Chemical Tanks).

Type AB-1A Combination Chemical and Hose Car (One or two Chemical Tanks).

Type AB-2 Combination Pumping and Hose Car.

Type AB-3 Triple Combination Pumping Engine Chemical and Hose Car (Single Chemical Tank).

Type AB-3A Triple Combination Pumping Engine Chemical and Hose Car (Two Chemical Tanks).

Type AB-4 Hose Car.

Type AB-5 City Service Hook and Ladder Truck.

Type AB-5A City Service Hook and Ladder Truck (Single Chemical Tank).

Type AB-6 Tractor.

Type AB-9 Chemical Engine.

Type AB-10 Squad Car.

AC Heavy Duty Models

Type AC-1 Combination Chemical and Hose Car (One or two Chemical Tanks).

Type AC-1A Combination Chemical and Hose Car (One or two Chemical Tanks).

Type AC-2 Combination Pumping Engine and Hose Car.

Type AC-3 Triple Combination Pumping Engine Chemical and Hose Car (One or two Chemical Tanks).

Type AC-4 Hose Car.

Type AC-5 City Service Hook and Ladder Truck.

Type AC-5A City Service Hook and Ladder Truck (Single Chemical Tank).

Type AC-6 Tractor.

Type AC-7 Tractor Drawn Aerial Hook and Ladder Truck.

Type AC-8 Tractor Drawn Water Tower.

Type AC-10 Squad Car.

Type AC-11 Service and Wrecking Truck.

Descriptive catalogs and detailed information on all the above Mack Fire Apparatus will be gladly sent upon request to the Public Works Department.

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One hundred and five direct MACK factory branches operate under the titles of: "MACK-INTERNATIONAL MOTOR TRUCK CORPORATION," "MACK MOTOR TRUCK COMPANY," and "MACK TRUCKS OF CANADA, LTD."

Two Books of Practical Value

to every fire officer interested in up-to-date methods and equipment

The New York Fire College Course

$1.50 a Copy—By Mail, $1.65 Postpaid

Comprising an abstract of the advanced practical instruction in up-to-the-minute Fire-Fighting methods given officers of the N. Y. Fire Dept. Fire Chiefs in cities, large or small, are increasing the efficiency of their men by placing this valuable book in every station. And with its help, too, fire department officers and men, studying for promotion, are easily winning top marks at examinations.

Explains in Clear Understandable Form—

Fire department tools and the most effective way of using them. Proper way to raise ladders and place apparatus. Building inspection, including sketches of buildings and points to cover in fire prevention and inspection work. Dwelling fires, and how to handle them. Apartment house fires, and how to fight them. Tenement house fires, and how to fight them. Office building fires, in old and new buildings; how to place apparatus and how to handle fires. Overhauling at fires, and wetting down fires without excessive water damage. Chemicals most with in fire service, and precautions to take. Chemical and electrical fires. Oil fires and varnish fires.

What Every Fire Fighter Should Know

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Comprising a reprint of the famous series of articles which appeared in FIRE AND WATER ENGINEERING during 1921 and 1922, under the same title.

This book is brimful of authoritative data covering the various phases of fire protection, and should serve the progressive fire chief interested in scientific fire-fighting methods as a valuable reference guide. It also gives to ambitious fire department officers and men, in simple, understandable form, the kind of information that will be found extremely helpful in preparing for promotional examinations. Contains more than 300 pages. Cloth bound.

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FIRE DEPARTMENT ACTIVITIES

Belford, N. J., Purchases Fire Apparatus—Belford, N. J., has purchased a Stoughton fire apparatus of 500-gallon capacity.

New Apparatus for Kokomo, Ind.—An Ahrens-Fox fire apparatus has been delivered to Kokomo, Ind.

Seniority Rules Adopted at Council Bluffs—Seniority rules have been established in the fire department at Council Bluffs, Ia.

Pittsburgh, Pa., to Construct New Fire Stations—The voters of Pittsburgh, Pa., have given approval to a $60,000 bond issue for the construction of new fire stations.

New Orders of Stoughton Fire Apparatus—South Amboy, N. J., has ordered two Stoughton 500-gallon pumpers with booster equipment; Chappaqua, N. Y., has ordered two of the same size.

Work Rushed on Fort Myers, Fla., Station—Construction is being rushed on the erection of a new fire station in Fort Myers, Fla. It is expected that the building will be completed in June.

Seattle Fire Boat Purchase Approved—The finance committee of Seattle, Wash., has approved the construction of a fireboat. The committee approved an ordinance appropriating $200,000 for this purpose.

Council Bluffs, Ia., Wants Seniority Rule—The firemen of Council Bluffs, Ia., want the city council of Council Bluffs, Ia., to institute seniority ruling in a manner similar to the custom among the various railroads.

Poplar Bluffs, Mo., Acquires Apparatus—A Boyer-equipped Graham fire apparatus has been delivered to Poplar Bluffs, Mo. It has been purchased by popular subscription of the towns people.

Jay Stevens Aids Salary Increase Bill—Jay W. Stevens, state fire marshal of California, has spent considerable time in Portland, Ore., to assist the firemen in conducting their appeal for an increase in salary.

Belleville, Mo., Firemen Refused Increase—The city council of Belleville, Mo., refused to grant an increase in salary to the firemen. The men wanted an increase of ten dollars a month so as to bring their monthly salary up to $140.

Owner of Famous O'Leary Cow Dies.—William L. Little, who sold the famous Mrs. O'Leary, the spirited cow that made history in fire prevention circles, died at his home recently at the age of eighty years.

New Boots for Pennboro, Pa., Firemen.—The council of Pennboro, Pa., agreed that since the firemen of Pennboro, Pa., have worn their rubber boots for seventeen years, it was time to secure new ones.

Chief Scott Presented with Gold Badge—A gold badge set with diamonds was presented to Chief Ralph J. Scott of Los Angeles, Cal., at a function given in his honor. The event was arranged by Rex. W. Laws, fire commissioner of that city.

New Fire House at Millwood, N. Y.—The new community building which houses the fire department of Millwood, N. Y., was formally opened. The department has made rapid strides since its organization in 1924.

Dayton, O., Band Gives First Concert—The newly organized band of the Dayton, Ohio, fire department gave its first concert before the city council, department members and guests. The mayor pledged the support of the community for the band.

Binghamton, N. Y., to Charge for Outside Calls—A number of towns adjacent to Binghamton, N. Y., have made a practice of depending on the city's fire department facilities rather than purchase their own fire apparatus. This has prompted the fire officials to establish a charge for outside fire calls.

Lancaster Firemen to March in Philadelphia—The volunteer firemen of Lancaster, Pa., will form a division in the parade to be held in Philadelphia on July 5 in celebration of the Sesqui-Centennial. The organization at Lancaster has over one thousand members.

Denver, Col., Has Excellent Department—Following an inspection of fire departments in the east by Deputy Chief James J. Moses, he stated that the fire department in Denver, Col., is in excellent condition. Chief Moses visited Philadelphia, New York Detroit, Chicago as well as some apparatus factories.

Chicago Firemen Want Salary Increase—The Firemen's Association of Chicago, Ill., are making a combined fight for an increase in their salary to bring it up to the scale of wages paid to the firemen of New York City. At present the men are receiving $2,200 a year, and an increase of $300 a year is being sought.

Planning for North Platte, Neb., Tournament—A meeting of thirty fire department representatives was held in Gering, Neb., to plan for the tournament of the North Platte Valley volunteer firemen which will be held in Gering, Neb., during August. Lee Anderson is president of the association and Tom Williams, secretary.

Troy, N. Y., Opens Central Fire Station—The new central fire station of Troy, N. Y., has been formally opened. For two hours there was a steady stream of visitors to inspect the new building. Chief Casey was presented with a bronze desk light and a large bouquet of flowers by one of the local organizations.

Eureka, Ill., Constructs Fire Station—A concerted demonstration of town pride was demonstrated in the construction of a new fire station in Eureka, Ill. Materials and gifts of money were contributed as well as the services of some of the skilled building mechanics. George Haecker is chief of the department.

Chief Appointed for Sesqui-Centennial—Battalion Chief Simmler, of Philadelphia, has been appointed to have charge of the firemen who will be in the fire department at the grounds at the Sesqui-Centennial Exposition in Philadelphia, Pa. Chief Simmler has been an active fireman for twenty-three years. The city will loan some of its apparatus for use at the exposition.

Condemned House Disappears.—A house in Stony Point, N. Y., which was condemned as a fire hazard, disappeared almost miraculously as soon as the occupant moved out. Many willing hands were found eager to raze the building, and the structure was gone before the wardens had time to investigate the claim that it was a fire hazard.

Marshalltown, Ia., May Charge for Outside Calls—The council of Marshalltown, Ia., is considering a plan to charge for all calls answered by the fire department that are outside of the city limits. The plan is to provide a schedule similar to the one existing in Vinton which provides a minimum charge of $15 per hour.

Portland, Ore., Has "Roofing Squad"—A "roofing squad" has been organized in Portland, Ore., whose duty it is to repair roofs after a fire has occurred in order to lessen the possibilities of damage from rain. Unless the roof is beyond repair, a temporary roof is made, tar paper is placed over this and nailed down with lathe so that the stricken family has again a roof over their head.

Portland, Ore., Firemen Have Mock Rescue—In answer to some newspaper correspondent who made the statment that the Portland, Ore., department was not equipped to handle fires in large buildings, Chief Holden arranged a mock rescue of a man supposedly overcome by smoke from the fifteenth floor of one of the city's tall buildings. Chief Holden believed that this was the only way to answer the assertions made in the letter.

Fire Alarm Notes

New Fire Alarm System for Hastings, N. Y.—The village board are considering the bids submitted for the installation of a fire alarm system in Hastings, N. Y. The Gamewell Fire Alarm Company submitted the lowest bid.

Waco, Tex., Receives New Fire Alarm Boxes—Forty new fire alarm boxes as well as other fire alarm equipment to be used in the installation of a new fire alarm system in Waco, Tex., have been received. The system is being installed by the Gamewell Company.

Hastings, N. Y., Awards Fire Alarm Contract—The board of fire wardens of Hastings, N. Y., have awarded a contract for a twenty box, two circuit fire alarm signal system to the Garl Signal Company of Akron, O. The system is to be complete with a central fire alarm station. The Garl Signal Company is new in the fire alarm field and is an outgrowth of the Garl Electric Company of the same city.

OHIO FIRE CHIEFS HOLD ANNUAL CONVENTION AT WARREN

Many Interesting Papers Presented—Order of Nero Instituted and Degrees Conferred

By R. B. CRISWELL.

ON the afternoon of June 8, the ninth annual convention of the Fire Chiefs' Association of Ohio was formally opened at the Hotel Warner in Warren, O. The mayor welcomed the convention and Chief Thomas J. McFarland of Marion, responded to the kind words of the mayor.

Two papers were delivered that afternoon: Leo F. Smith, secretary of the Ohio Board of Building Materials, talked on "Building Construction" and touched on the manner in which the state commission was trying to secure the construction of better buildings. H. F. Shannon, fire chief at the American Steel and Wire Company, Cleveland, delivered a paper on "Industrial Plant Protection." It appealed to the large number of industrial fire chiefs present. In the evening, under the direction of Chief Philip J. Harty, of the Youngstown Sheet and Tube Company, the industrial fire chiefs had a most interesting evening.

Later in the evening, at the Moose Temple, the Pyrotechnic Degree of the Majestic and Ancient Carbolic Order of Nero was conferred under the personal direction of His Imperial Majesty Edward F. Thomas. There were many fiddlers on hand to assist in the conferring of the Pyrotechnic degree, and the other ceremonies attendant to the order were well received. Following the degree work, there was a turtle soup supper.

On the morning of June 9, Harry K. Rogers who is known as the "Fire Clown," gave a talk on the "Proper Training of Firemen." Previously he had addressed thousands of school children in Warren. C. S. Magruder, assistant fire marshal, outlined the work that the fire marshal's office is doing.

Mansfield, Ohio, has been one of our most progressive cities along the line of fire prevention. A fifty-two weeks' campaign has been put in operation, starting last October during fire prevention week, and continuing strong at present. The details of how this is being carried out were explained by Mr. S. N. Vaughn, Secretary of the Chamber of Commerce of that city.

All the afternoon of Wednesday, June 9, was spent in viewing demonstrations at Packard Park. Pumpers of all sizes were there from the little 75 g. p. m. type which fits on the front of a Ford, up to the big 750 g. p. m. triple combinations. Next was demonstrated the new mechanical device for preventing explosions in barrels or tanks of burning gasoline or oil such as storage tanks, automobile tanks, etc. This device is called "Ventex" and is a combined screen and safety valve operating on the principle of the miners safety lamp. A large drum of gasoline had a bonfire built underneath it, and although the drum became very hot and the vapor burned freely where emerging from the protected vent yet there was no explosion. Later in the day wonderful displays of Foamite, and also of the new Amdyco foam generator were made on lakes of burning oil. Also in a tight metal clad gas chamber demonstrations of various gas masks were made.

At six o'clock in the evening a chicken dinner banquet was served at the Moose Hall. Over 200 were present. Chief George Wallace, the "Grand Old Man" who has been 56 years in the Cleveland Department, was one of the principal speakers. Lively entertainment was furnished by a large orchestra and several singers.

Thursday morning, June 10th, the first address was given by Chief Joseph H. Speddy of Lakewood, Ohio, on "How to Secure the Necessary Support." Chief Speddy has been unusually successful in "selling" his department to his community, and in return receives unusual support. Chief W. F. Wise of the Medina Fire Department, then told of the "Organization of Volunteer Fire Departments." E. C. Leach then gave a good talk on "Rubber and Service" as applied to fire departments, particularly as pertaining to fire truck tires.

A resolution was passed that a new member be added to the Board of Directors, this member to be from the exhibitors. Mr. J. T. Schellin of the Akron Brass Company, Wooster, was chosen by the exhibitors.

The following is the Board of Directors for the coming year: D. K. Moser, Chief, Warren Ohio: W. F. Flanzer, Chief, Lebanon, Ohio; T. J. Gough, Chief, Cuyahoga Heights, Ohio; Sam Butler, Chief, Republic Iron & Steel Company, Youngstown, Ohio; C. S. Magruder, Assistant State Fire Marshal, Columbus, Ohio; J. T. Shelling, Akron Brass Company, Wooster, Ohio.

The following officers were elected for the coming year:
President, Chief William Remy, Mansfield, Ohio.
First Vice President, Chief T. J. McFarland, Marion, Ohio.
Second Vice President, Chief C. F. Ridenour, Bryan, Ohio.
Secretary-Treasurer, Chief Philip J. Harty, The Youngstown Sheet & Tube Co., Youngstown, Ohio.

Modern Fire Alarm Signalling

(*Continued from page* 613)

dripping from bottom of jar. Should you notice it dripping, take the jar out and replace it with a good one. These flaws sometimes do not show up until the acid is poured. Finish "A" side first and when finished place fuses in fuse blocks. Proceed to the switchboard room and place the test jack in jack hole marked charging. Your voltmeter should show a voltage reading of close on to 1 and 8/10ths to 1 and 9/10ths volts per cell and something is wrong if a great difference is noted. Do not be alarmed because the ammeter will not register as it will not do so until charging begins. If a great difference is noted, see if you have two plates of the same polarity in the same jar—correcting this will result in an improvement. If no voltage is noted, a fuse is probably dead and will have to be replaced by a new one. If you still do not receive a reading you have not the right wires hooked up on the board, and must find out your mistake and correct it.

After you have received readings on all circuits which are correct, you are ready to give the initial charge and will find the directions for arranging the charging board, etc., in an article on "Charging boards."

In the event that your acid is of a higher density than 1.210 specific gravity you will have to dilute it and these instructions should be followed. Use distilled water and chemically pure sulphuric acid. Take one part of acid and four parts of water by volume, pouring the water into an earthenware crock or lead lined tank; pour the acid in very slowly and continually stir the contents with a wooden stick or paddle, this will create a good deal of heat and the mixture should be allowed to cool before taking density readings. If it is done visa versa by pouring the water into the acid it will create a serious condition and one may lose his eyesight or be painfully burned.

The specific gravity reading when acid is cold, should be 1.210 s.g. and when you have your acid or solution at this point, it can be poured into the cells the same as described above. After acid pouring has been completed, all acid drops should be wiped off of outsides of cells and off of battery rack. If you should by ill fortune spill acid on the floor take a pitcher of water and pour over the acid; this will tend to neutralize its action. Should you spill acid on your hands immerse the burned portion in cold water and you will find relief.

Charging Batteries

The daily charge of a battery is a somewhat easy matter and will be easily understood by the average man. The initial charge of a battery is a somewhat different matter and will be explained fully in this chapter. We now have our cells filled and they are all ready to be given their first or what we call the initial charge. We will not, however, discuss the setting of the charging boards as it is intended to take them up in a separate article. Your batteries are of the 6 amp-hour type and will operate the line for a period of 60 hours at the rate of one tenth amperes an hour.

The initial charge should be given at the rate of .75 amps and the battery should be continuously charged until the voltage and specific gravity are constant for a period of ten hours. By that we mean, the reading should remain at the same figure for ten consecutive hours. Usually thirty-five to forty hours of continuous charging will fully charge the battery; if the rate used to charge is of a lower rating than that specified, then time will have to be increased in proportion. During the initial charge watch all cells and see that they are gassing freely and that the temperature of the electrolyte never rises above 110 degrees F., if this should happen stop the charge until the electrolyte cools at which time the charge may again be started and kept up in the regular manner.

The action and life of the batteries are determined by the initial charge and if it is not proper and complete the battery will soon give out, and you will have to replace it with a new one. If you wish to charge at a lower rate increase the time in proportion. When fully charged the cell readings should be between 2.5 and 2.7 volts. It is sometimes impossible to bring every cell up to 2.7 volts. The specific gravity reading will be around 1.210 and 1.215. If you receive a reading on each cell of 2.5 volts and when you put it on the working line it drops to two volts do not be alarmed as it is natural and is no common cause for trouble.

A normal daily charge could be given, that is "A" side one day and "B" side the next. The batteries are being discharged at the rate of one tenth ampere hour and in 24 hrs. it will discharge 2.4 ampere. When you start the daily charge, charge until you

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SIRACODE is the SEARCHLIGHT of SOUND! It is placed on the market after five years of exhaustive scientific research. Tests made with the most accurate sound recorders conclusively prove its vast superiority over **all** old style instruments. Due to parabolic construction, coupled with deflector which also acts as an intensifier, it becomes directional, **forcibly ejecting** the sound **forward** LIKE THE RAYS OF A SEARCHLIGHT, where it is **wanted** and **needed.** No more screeching and howling at point of origin, into driver's ears, and back over ground already traversed, but an impelling note delivered **far ahead,** with less than **half** the amperage consumption of any siren of like size, or volume! We construct our own motors on certain models. Motors on other sizes are built to our exacting requirements in order to assure these results.

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TRADE MARK
Registered U. S. Patent Office

In addition to the above, our larger types, known as "Community PROTECTORS" for cities, towns, and industrial plants as well as our directional Fog Signals, are fitted with a quick acting, ball bearing shutter, which in connection with our patented Relay, sound code numbers in sharp staccato tone readily heard and distinguished over a large area. These can be blown from any standard box or system, or through our patented Ward System. You cannot afford to invest a dollar in any other make or device until you investigate SIRACODE. Write for full particulars.

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Formerly Heath Engineering Laboratories, 354 Pine St., San Francisco, Calif.

The Los Angeles Fire Dept. is 100% B & M equipped.

Hundreds of Cities over the country using our sirens.

We gladly send B & M Sirens to cities on approval without expense.

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SIREN

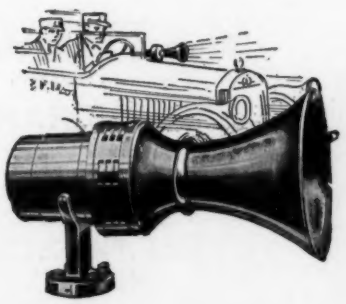
"It pierces the air"

You Will Eventually Buy B & M's

Fire officials find the powerful B & M fire apparatus Siren to be ideal to meet modern street traffic conditions. Electrically-driven Sirens cannot be operated successfully by storage batteries in hard and continuous service. Hand-rotated Sirens are both exhausting and dangerous to the operator. Therefore, the mechanically-driven B & M Siren with its piercing screech that can be heard for miles is the ideal fire apparatus Siren.

Send for Complete Information

B & M MANUFACTURING CO.
Lester H. Miles, Proprietor
931 So. Main St. Los Angeles, Calif.



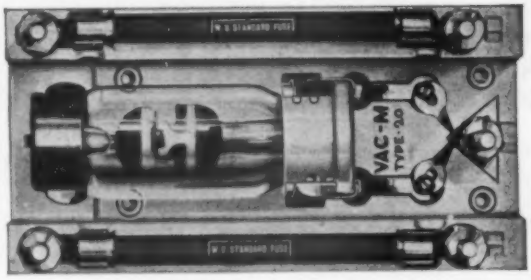
The Sterling No. 12

This is the powerful electrical Siren used by leading fire Chiefs. It is ideal for all fire apparatus and other vehicles requiring a commanding signal.

We will send you a Sterling No. 12 complete with 10 feet of dual cable, for free examination and trial. You may return it if not fully satisfied.

Price complete.....$40.00

Sterling Siren Fire Alarm Co., Inc.
61 Allen St. Rochester, N. Y.



Your Sensitive Fire Alarm Instruments Need Protection

YOUR trained men and expensive motor apparatus are worthless if the alarm is not received.

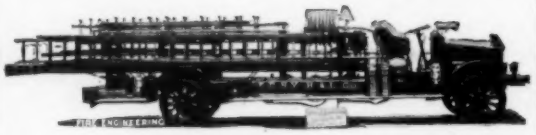
It is for this reason that up-to-date fire officials consider VAC-M Arresters an essential part of every system. VAC-M Arresters actually pay for themselves over and over in the protection they provide, not to mention the expense and trouble they save.

Are your own fire alarm instruments fully protected by VAC-M Arresters? Can lightning and short-circuits handicap your department? Do you want us to tell you all about the advantages of installing VAC-M Arresters on your system?

Complete Information on Request

National Electric Specialty Co.
Toledo : Ohio

Light and Heavy



City Service
Hook & Ladder Apparatus

We build any type of Apparatus required and can furnish High Grade Ladders in either Trussed or Solid Side types. Each Ladder is carefully made, ironed, and equipped for safety, strength and service.

Up-to-date FIRE FIGHTING APPLIANCES.

Write us when interested.

Combination Ladder Co., Inc.
381 Fountain Street Providence, R. I.

MATHEWS
(Reg. U. S. Pat. Off.)
FIRE HYDRANTS
for
DOMESTIC
and
HIGH PRESSURE
Service

Note—

The positive waste valve.

All operating threads are above the Stuffing box.

No toggles, small screws or other small, quick-wearing parts.

All moving parts are bronze or bronze bushed.

The outside casing permits replacing a two-way standpipe with a steamer and two-way standpipe without digging up the ground.

Valves and Boxes
Cast Iron Pipe and Fittings
R. D. WOOD & CO.
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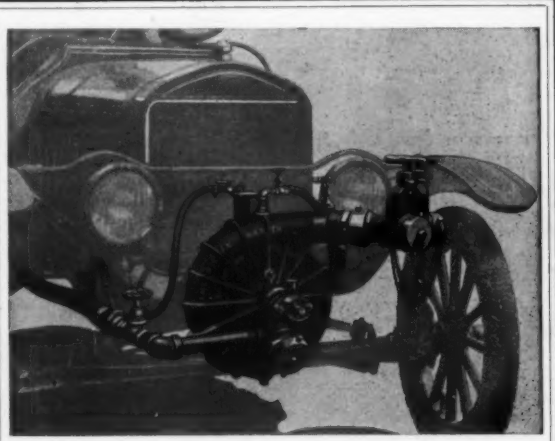


A Portable Fire Pump that is Efficient

The Barton Portable Fire Pump will furnish adequate fire protection for cities, towns and villages having motor driven apparatus. It is of special advantage in towns and villages having no paid department. It is always ready for emergency service and can furnish abundant capacity and pressure from any source of water supply. The Barton Portable Fire Pump provides efficient fire protection at low cost.

AMERICAN STEAM PUMP CO.
Battle Creek, Michigan

have replaced 2.4 amperes plus ten per cent or 2.64 amperes. At .75 amps hrs, it will take three and half hrs, to give the battery a full charge. At one half or .50 amps it will take 5 1/3 hrs to fully charge.

An equalizing charge should be given once every two weeks and should be given at the normal rate; readings should be taken every fifteen mins. for an hour and a half, until the battery shows no rise. At this time it should be at a maximum voltage, and the charge can be shut off.

Charge one side of your battery every day and do not have a battery working over twenty four hours. More information in arranging charging and working circuits will be given in an issue on charging boards.

Servicing of Batteries

There are some things which must always be in the battery room and the following is a list of things that are needed.

1. A porcelain, lead lined or earthenware sink for washing jars etc.
2. Carboy of acid and distilled water.
3. A trouble light.
4. A dozen spare battery jars.
5. A dozen spare end plates and elements.
6. A dozen fuses.
7. A few feet of lead wire.
8. Spare fuse blocks.
9. Small jar of vaseline.

These things should be always on hand so as to be available when needed. All batteries should be given a weekly inspection and should be filled up to the line with distilled water as often as necessary to keep them at the right level.

Hydrometer readings should be taken periodically and a chart should be kept giving the characteristics of each battery. All jars and tops should be kept clean and can be dusted off with a damp rag and then wiped off with a dry one. Battery racks should be painted with a black asphaltum paint once every two years. The servicing of batteries will readily be understood by the average man, and it of course means constant supervision. The little things which will put a battery out of commission will be learned by actual practice.

A Few Practical Dont's

Don't use any but the best batteries.
Don't use any cracked or broken jars or plates.
Don't overcharge your battery.
Don't completely discharge your battery.
Don't leave your battery on the line any more than 24 hours if possible.
Don't paint the racks with ordinary paint.

For the best results use the best parts and batteries obtainable and give it your best attention. An ideal battery both from the service and operating standpoint is illustrated in sketch No. 9.

(To be continued)

Whitney Goes With Amdyco

The Amdyco Corporation of New York, manufacturers of foam fire protection equipment, announces the appointment of Charles A. Whitney as sales engineer effective June 1. Mr. Whitney, left the National Board of Fire Underwriters several months ago on account of illness, after thirteen years of service with that organization as engineer.

Firemen Accused of Setting 10 Fires

Members of the police department have accused three firemen of Rockville Center, Long Island, of having set fire on ten different occasions in order to create some excitement and to bask in the glory of the heroism which was bound to follow.

The police allege that the men stated that the fires were started for excitement and in order that they might have the honor of arriving at the fires before any of the seven volunteer fire companies, as keen rivalry exists among the company members.

Chief Frank Conger was passing by the station of the Defender fire company and observed the engine with the motor running, the men in their places and everything in readiness to respond to a fire. About a minute later, the fire alarm sounded and the company's apparatus was the first to reach the fire. Chief Conger said nothing but started an investigation. He found quantities of waste, and a coat belonging to one of the firemen. The chief reported his suspicions to the police and an investigation followed.

It is alleged that the three firemen signed a confession in the presence of Chief Conger, the president of the village and Frank V. Cooper of the National Board of Fire Underwriters.

PROPOSED IMPROVEMENTS

Worcester, Otsego Co., N. Y.—City voted in favor of the purchase of combination chemical and hose car and fire siren.

Avon, Livingston Co., N. Y.—City voted in favor of a $13,000 bond issue for purchase of fire apparatus, hose and electric siren.

Huntington Park, Los Angeles Co., Calif.—Mayor Jerome V. Scofield says that plans for fire department improvements include the installation of 120 fire alarm boxes, the purchase of two new pieces of apparatus.

Santa Barbara, Santa Barbara Co., Calif.—A $90,000 bond issue may be voted upon in August to be used for erection of fire station in northwest portion of city and for one in east side, and the purchase of apparatus to house in said stations.

Springfield, Sangamon Co., Ill.—New fire station to be erected.

Cumberland, Allegany Co., Md.—Two new fire stations to be erected.

Milford, New Haven Co., Conn.—Board of Fire Commissioners to ask Board of Finance for $50,000 for erection of Central Fire Station and equipment.

Groton, New London Co., Conn.—Pioneer Hose Co. No. 1 has under consideration the purchase of two pieces of motor apparatus—one squad car equipped for handling small fires, and the other for handling farm fires, equipped with a 200 or 300 gallon water tank. Mr. C. F. Willard, 220 Thames St., would like to receive suggestions and data.

Atlanta, Fulton Co., Ga.—Fire Chief W. B. Cody, requested that the Finance Committee appropriate $15,500 for the purchase of a piece of apparatus.

Evansville, Vanderburg Co., Ind.—New central fire station to be erected.

Hartley, O'Brien Co., Iowa—Considering the purchase of a light car equipped with chemical tanks for use in rural districts.

Helena, Lewis & Clark Co., Mont.—Fire Marshal W. G. Brooks recommended the purchase of 500 feet of 2½-inch fire hose for protection of state tuberculosis hospital.

Jamesburg, Middlesex Co., N. J.—Agitation in Council concerning purchase of fire apparatus.

Aurora, Buchanan Co., Iowa—Considering the purchase of a fire engine.

Correctionville, Woodbury Co., Iowa—Fire department reorganized with Earl Smith, as president. Recommended to City Council the purchase of new piece of apparatus and other equipment.

Blue Springs, Jackson Co., Mo.—Special election to be held June 28 on a $5,000 bond issue for the purchase of fire equipment.

Webb City, Jasper Co., Mo.—To purchase 1,000 feet of fire hose.

Marshalltown, Marshall Co., Iowa—Contemplating the installation of a fire alarm system.

Holstein, Ida Co., Iowa—Funds being solicited for the purchase of a chemical car for fire department. H. C. Hansen, Chief, recently elected.

Mt. Rainier, Prince Georges Co., Md.—Funds are being raised by the Mt. Rainier Volunteer Fire Department for the purchase of a siren, 600 feet of fire hose, and a piece of apparatus.

Cedar Bluff, Saunders Co., Nebr.—Equipment for fire department to be purchased.

East Cleveland, Cuyahoga Co., Ohio—National Board of Fire Underwriters recommended the construction of a drill tower, and that fire alarm boxes be replaced with ones of the modern succession type with protected key or handle or single-acting door.

Murphysboro, Jackson Co., Ill.—Illinois Inspection Bureau recommends the purchase of additional equipment for fire department.

Peoria, Peoria Co., Ill.—May purchase 750-gal. pumper to replace present one at No. 4 fire station.

Shields, Dodge Co., Wis.—Town voted $1,000 toward fund for purchase of fire apparatus.

Haney, B. C., Canada—Committee appointed to investigate different types of apparatus for fire department.

Washington, D. C.—The Commissioner of the District of Columbia will receive bids July 14 for motor-driven fire apparatus.

Chateaugay, Franklin Co., N. Y.—It was voted in favor of raising $10,000 for erection of fire station.

Sayre, Bradford Co., Pa.—Charter has been applied for by 21 charter members of Engine Co. No. 1, a new fire company recently organized here, with Arthur Hickey, President.

Barren Hill (Mail Lafayette Hill) Montgomery Co., Pa.—Funds being raised for purchase of a new piece of apparatus for fire department.

Philadelphia, Pa.—New fire station to be built at 2nd and Norris streets at cost of $50,000.

Puente, Los Angeles Co., Calif.—Fire district to be enlarged.

Watsonville, Santa Cruz Co., Calif.—Complete reorganization of fire department to be made.

Lakeland, Polk Co., Fla.—At election held June 1, it was voted in favor of a $30,000 bond issue for fire apparatus and equipment.

Monachie (Mail Carlstadt) Bergen Co., N. J.—Washington Park Hose Co. No. 2 to purchase new apparatus.

Richmond, Wayne Co., Ind.—Bids will be received by the Board of Public Works, until 10 a. m. July 1, for one 750 gal. triple combination car for the fire department, in accordance with specifications on file in office of Board. Each bid must be accompanied by a certified check 2½% the amount of the proposal.

Youngstown, Mahoning Co., Ohio—Board of Fire Underwriters recommended that hose carriers be purchased with 3-inch hose, with a total of at least 1,000 feet of 2½-inch and 3-inch hose.

FALSE ALARMS

It was during memorial services in the cemetery and flowers were being placed upon the grave of the late Chief of the Department. Delegations were present from all of the various volunteer companies, including the colored company which sent two dusky representatives. The delegates were bowed in silence when one of the darkies let out a raucous "Haw! Haw!" and when his friend inquired the cause for his mirth, he pointed to the inscription on the Chief's tombstone which read:

"Haw! Haw!" laughed the darky, "He ain't foolin' nob'dy but hisself."

WARNING TO THE ROME FIRE DEPARTMENT

(But Mussoloni never complains, even to his intimates. When alone in his apartment after a strenuous day, his body is racked by pain, he takes from its case an old violin he has played since youth, and seeks to forget his troubles in its strains.—(*The N. Y. World.*)

Now, biffed upon his famous beazer,
Italia's celebrated hero
No longer seeks to be a Caesar
But practices to be a Nero.

A BAD DEPOSITORY

A story is told of Chief Hedden of Buffalo, N. Y., that he placed $300 in the pillow of his berth and then forgot about it completely. When he discovered his loss, he hastened back only to find that the porter had thrown the pillow slips of the car into a heap. In one of the slips, the nucleus of the fortune was found.

FORGOTTEN IN RUSH

Out in Dawson, Neb., the town was preparing to celebrate the opening of a new water works system. It is only a town of some 500 people, but after observing their disastrous fires they passed a bond issue for the construction of a system—installation of hydrants in their main square, erection of a tank on a tower, purchase of fire hose, etc. The bell of the fire station had been muffled until the ceremonies were ready to start. The band was there, the firemen were there in their new uniforms, the town officials were there, when—

"Fire! Fire!" someone in the distance cried, and the shout was soon taken up by the crowd. Instantly every one forgot about the ceremonies and rushed for the fire buckets. Soon a bucket line was formed, and the the blaze extinguished.

When the fire was out, the mayor asked the chief, "Why didn't you use the new water system?"

"Gee," said the chief, "I forgot all about it."

A SERIOUS CONDITION

It was late at night. A fireman was returning from the outskirts of the city on the trolley car. He was the only passenger, until a man, somewhat a fanatic on the subject of hypnotism entered, and seated himself beside the fireman for company. "I'll hypnotize you," he said.

"Fire away," said the fireman somewhat sleepily.

After a few mysterious movements, he said, "You are now hypnotized. You are a fireman."

"That's right," replied the victim.

"You are a good fireman."

"Sure!"

"You are an honest fireman. You keep out of the cellars of the night clubs that catch on fire. You never look up when a lady comes down the ladder. You never play pinochle at the station."

"That's right," said the fireman in order to humor him.

"What an awful fix you would be in if I left you in that condition."

NOT WHAT HE MEANT

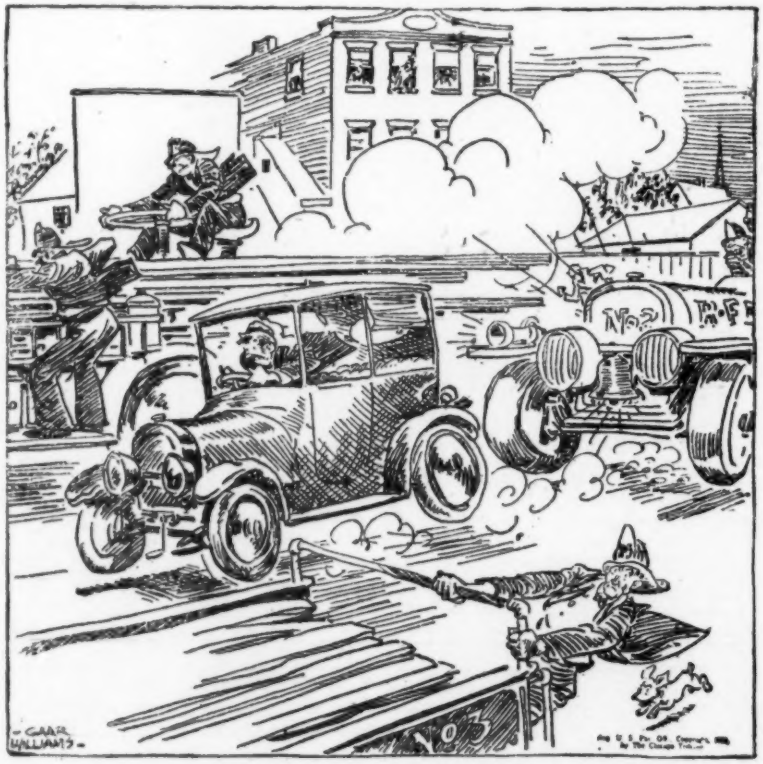
There was a new member at the engine company, and it was the custom for the chaplain who lived on the same street to come into the station once in awhile to chat with the boys. Spying the rookie and with an eye for business, the minister said, "Good evening my young friend. Do you ever attend a place of worship?"

"Yes, indeed," replied the rookie fireman, somewhat proudly, "regularly every Sunday night. I'm on my way to see her now."

A HOT TIME

Some one in Boston fell and landed on his hip flask. In reporting accidents of this nature it is more important to state the object damaged than the the part of the anatomy hurt. The breaking of the flask set fire to a pocketful of matches, and the injured ran down the street leaving a trail of smoke.

The blaze was extinguished, but the victim was taken to a nearby hospital suffering from burns.



How to Keep From Growing Old
Poke the family bus into fire traffic.—*The Daily News.*

Shuredry Salvage Covers

COST LESS—
WEIGH LESS—
MORE EASILY HANDLED

Chief Boyd, of the Knoxville, Tenn., Fire Department, has used "Shuredry" Salvage Covers for eight years. He says: "They are *waterproof, not affected by the weather, easy to handle, and altogether the most satisfactory covers we have ever used.*"

They do not freeze in winter, nor become tacky in summer. They are not subject to spontaneous combustion, nor to cracking where folded. One man can carry four up a ladder at one time.

Made in standard sizes. Write our nearest plant for samples and prices.

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Manufacturers since 1870
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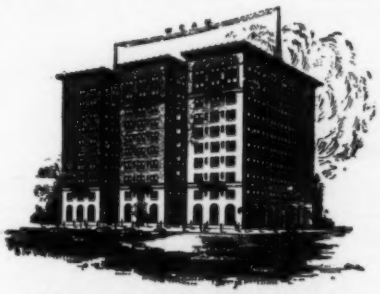
CHESTNUT AND 39TH STREET
HOTEL PENNSYLVANIA



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600 Rooms—500 Baths
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Rooms with private Bath and Shower from $3.50 per day.

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Wherever Worcester Fire Alarm Signals have been installed they have been uniformly successful, not only as efficient alarms, but because of their freedom from objectionable harshness.

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Are Designed by Engineers

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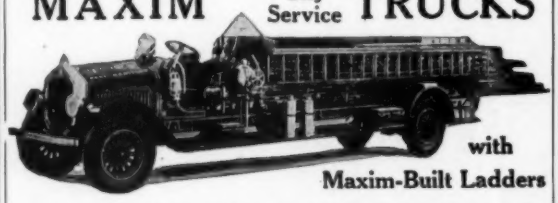

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Smoke and Fume Respirator

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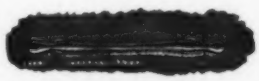
230 West Randolph St., Chicago, Ill.



If you purchase BI-LATERAL FIRE HOSE it will increase the value of your hose-carrying apparatus more than the cost of the load of Bi-Lateral Fire Hose.

We can load from 25% to 33⅓% more and when coupled with rocker lug couplings the Bi-Lateral hose makes an apparatus one to be proud of and as near perfect as possible to do quick and efficient service.

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Almost every page contains the offer of some product or service that you would find of value in your department. It will pay you to read the advertising pages as carefully as you do the editorial.

"The wise man is he who is always willing to learn." It will pay you to read the advertising pages carefully.

THE PUBLISHERS.

CONVENTION DATES

July 13-15—MICHIGAN STATE FIREMEN'S ASSOCIATION. 52nd Annual Convention, Caro, Mich. Secretary, H. L. Williams, Ludington, Mich.

July 14—DELAWARE STATE VOLUNTEER FIREMEN'S ASSOCIATION. 6th Annual Convention, New Castle, New Castle County, Del. Secretary, Sam H. Carson, Dover. President, Geo. Clifton Maull, Lewes.

July 21-22—CENTRAL NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. 33d Annual Convention and Parade, Endicott, N. Y. Secretary, Millwood Fitch, Moravia, N. Y. Secretary, Local Committee, Floyd L. Jackson, Endicott.

July 26-28—MONTANA STATE FIREMEN'S ASSOCIATION. 35th Annual Convention, Big Timber, Mont. Secretary, D. E. Moser, Bozeman, Mont.

July 27-28—WESTERN NEW YORK VOLUNTEER FIREMEN'S Association. Annual Convention, Kenmore, N. Y. Secretary, Henry A. Clark, 21 Porter Ave., Batavia, N. Y.

July 30-31—CHENANGO COUNTY FIREMEN'S ASSOCIATION. 4th Annual Convention, Sherburne, N. Y. Secretary, David Allen, Sherburne.

Aug.—CENTRAL PENNSYLVANIA VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Tyrone, Pa.

Aug. 2-4—COLORADO STATE FIREMEN'S ASSOCIATION 10th Annual Convention, Denver, Col. Secretary, Clinton Turnbull, Fire Department, Denver, Col.

Aug. 9-14—WESTERN PENNSYLVANIA FIREMEN'S ASSOCIATION. 33rd Annual Convention, New Kensington, Pa. Secretary Convention Committee, R. A. Kanouff, New Kensington.

Aug. 16-18—UTAH STATE FIREMEN'S ASSOCIATION. Annual Convention, and Tournament, Park City, Utah. Secretary, Fred Peters, Murray, Utah.

Aug. 16-19—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. 54th Annual Convention, Alexandria Bay, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.; Treasurer, William H. Swartout, 115 Main Street, Ossining, N. Y.

Aug. 16-21—NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. 39th Annual Convention, Atlantic Hotel, Morehead City, N. C. President, A. B. Horney, High Point; Secretary, John L. Miller, Concord.

Aug. 19-20—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 43rd Annual Convention, Elks' Home, Washington St., New London, Conn. Secretary, D. W. Harford, South Norwalk.

Aug. 24-27—DOMINION ASSOCIATION OF FIRE CHIEFS. 18th Annual Convention, Windsor, Ont. Secretary, Chief James Armstrong, Kingston, Ont.

Sept. 13-15—KENTUCKY FIRE CHIEFS' ASSOCIATION. Annual Convention, Fire Department Drill School, Louisville, Ky. Secretary, Captain S. G. Render, Fire Department Instructor, 303 Sneed Building, Louisville. For exhibits at State Fair, Sept. 13-18, address State Department of Fire Prevention and Rates, Frankfort, Ky.

Sept. 14-15—IOWA STATE FIREMEN'S ASSOCIATION. 49th Annual Convention, Manning, Ia. Secretary, E. E. Parsons, Marion.

Sept. 14-16—MASSACHUSETTS STATE FIREMEN'S ASSOCIATION. 47th Annual Convention, Fall River, Mass. Secretary, Daniel J. Looney, 1046 Old South Building, Boston, Mass.

Sept. 21-24—INTERNATIONAL ASSOCIATION OF MUNICIPAL ELECTRICIANS. 30th Annual Convention. Battery Park Hotel, Ashville, N. C. Secretary, William R. Arbuckle, Supt. Fire Alarm, Bayonne, N. J. Chairman Exhibit Committee, Daniel J. Morgan, Sales Engr., Hazard Mfg. Co., Wilkes-Barre, Pa.

Sept. 22-23—INDIANA STATE FIREMEN'S ASSOCIATION. 9th Annual Convention, Marion, Ind. Secretary, Frank H. Miller, Fire Headquarters, Terre Haute, Ind.

Sept. 24—NEW JERSEY FIRE CHIEFS' ASSOCIATION. Annual Convention, Atlantic City, N. J. Secretary, Fred A. Trowbridge, 17 South Street, Morristown, N. J.

Sept. 24-25—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 49th Annual Convention, Atlantic City, N. J. Headquarters, Executive Committee, Hotel Dennis. Secretary, William Exall, Chamber of Commerce Building, Newark, N. J.

Sept. 27-29—ARKANSAS STATE FIREMEN'S ASSOCIATION. Annual Convention, Jonesboro, Ark. Date of meeting tentative. H. S. Compton, secretary. Central Fire Station, Little Rock, Ark.

Sept. 27-29—KANSAS STATE FIRE CHIEFS' AND STATE FIREMEN'S ASSOCIATIONS. 10th and 39th Annual Conventions, respectively. Manhattan, Kan. Secretary, Chief K. D. Doyle, Wamego, Kan.

Oct. 4-9—INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS. Annual Convention, Hotel Adelphia, Philadelphia, Pa. Secretary-Treasurer, Geo. J. Richardson, Rooms 105-6, A. F. of L. Bldg., Washington, D. C.

Oct. 5-7—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. Annual Convention, Philadelphia, Pa. Secretary, Charles F. Clark, 411 Bellevue Avenue, Wayne, Pa.

Oct. 12-15—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. 33rd Annual Convention, Fresno, Cal. Secretary, Chief Jay W. Stevens, 1014 Merchants Exchange Building, San Francisco, Cal.

Oct. 19-22—INTERNATIONAL ASSOCIATION OF FIRE ENGINEERS. 54th Annual Convention. Hotel Roosevelt, New Orleans, La. Exhibits at U. S. Army Base Bldg., Dauphine and Poland Sts. Secretary, Chief James J. Mulcahy, Yonkers, N. Y. Chairman Exhibit Committee, Chief Wm. F. Daley, Brockton, Mass.

Oct. 20—OFFICERS' ASSO. FIRE PATROLS, SALVAGE CORPS AND PROTECTIVE DEPTS. OF U. S. AND CANADA. Meeting at New Orleans in connection with I. A. F. E. Convention. Secretary, John Ashmead, 76 William St., New York City.

Tournament Held in Sac City, Ia.—The Maple Valley Firemen's Association recently held their annual tournament in Sac City, Ia. The following towns are members of the association: Holstein, Galva, Schaller, Early, Sac City, Wall Lake, Misiouri Valley, Schleswig, Battle Creek, Gorve, Odebolt, Kiron, Carrol, Manning and Lake City.

South Carolina Firemen Meet in Charleston

The twenty-first annual convention of the South Carolina State Firemen's Association is taking place this week at Charleston, S. C., the dates being June 24 and 25, and the headquarters being at the St. John Hotel.

The principal events of the convention are as follows:

Thursday, June 24.

10:30 A. M.: Registration of members and guests at St. John Hotel.

12 Noon: Convention was called to order by the president, Louis Behrens at St. John Hotel.

Invocation, Rev. W. P. Peyton, of Rock Hill, S. C., chaplain of the Association.

Address of welcome in behalf of the City of Charleston by Mayor Thomas P. Stoney.

Response by President Louis Behrens.

Response by Hon. George F. Von Kolnitz, attorney of the Association.

Address by Hon. James D. McNeill, of Fayetteville, N. C., Ex-President National Firemen's Association and President Emeritus of the North Carolina State Firemen's Association.

Address by Hon. Thomas G. McLeod, Governor of the State of South Carolina.

Address by Hon. John J. McMahon, Insurance Commissioner of South Carolina.

Business session followed addresses.

3:30 P. M.: Boat ride for members and visitors, boat left U. S. Customs House Dock, foot of Market Street, at 3:30 o'clock. Trip included visit to points of interest in harbor.

8 P. M.: Business session at St. John Hotel.

Friday, June 25.

11 A. M.: Parade of Charleston Fire Department, starting from Meeting and Calhoun Streets, promptly at 11 o'clock.

Chiefs, delegates and guests assemble on Marion Square by the Calhoun Monument at 10:30 o'clock promptly. Automobiles are to be provided for all to take part in parade. Immediately after parade delegates and guests are to be taken to Folly Beach in special buses and automobiles where all will participate in surf bathing, fish fry and music in their honor. The return from the beach will begin at 6 o'clock in buses and automobiles.

Plans Made for Connecticut Convention

With nearly 10,000 firemen expected from Connecticut, New York, Massachusetts and Rhode Island, one of the biggest days in the history of New London, Conn., is anticipated when the Connecticut State Firemens Association hold their forty-third annual convention in that city on August 17 and 18. The New London department is already making elaborate preparations for a firemen's parade, one of the largest ever held in Connecticut. A field day will be held on August 18. More than 75 fire companies with from fifty to one hundred men, each equipped with marching regalia are expected in addition to five hundred official delegates to the convention which will be held at the spacious Elks' Club on Washington street. Major General Morris B. Payne, former member of the Connecticut State Legislature from New London, will be marshal of the parade.

Deputy Fire Chief Thomas H. Shipman has been appointed general chairman of the committee on arrangements. Chief Charles H. Rose, president of the Connecticut State Firemen's Association, is honorary chairman. City officials and officers in the New London department comprise the general committee. The officers of the Connecticut State Firemen's Association are as follows:

President, Chief Charles H. Rose, New London; Vice-President, Captain Edward J. Foley, Bridgeport; Secretary, David W. Harford, South Norwalk; Treasurer, M. T. Souney, New Britain.

T. F. MAGNER.

Will Stage Burning of Denver

As part of the annual convention of the Colorado State Firemen's Association to be held in Denver, Col., on August 2 to 4, the city is planning to stage the "burning of Denver" in the stadium of the University of Denver.

Many rescues and other department evolutions will be exhibited as part of the fire scene. The stage for this demonstration will be three hundred by three hundred and fifty feet. In connection with this spectacle, there will be 1,500 performers and three hundred musicians; six circus acts will be imported to augment the show.

Two carloads of lumber will be used to construct the scenery. According to the members of the committee, the show will be the most elaborate of its kind ever held. The representatives of the fire department on the committee of arrangements include Chief John Healy, Capt. W. E. Guthner, Capt. W. J. Martin and Edward L. Layne, deputy fire alarm superintendent.

S & M Special Lighting Equipment

Spot-Lites for Chiefs' Cars. Pick-Up-Lites for Fire Apparatus.

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Light Projection 3000 ft.

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Fire apparatus for volunteer and small town fire departments must be designed, built and equipped to meet particular requirements. It must be a combination of several distinct types built for city use. It must be complete in every detail.

The Stoughton, the *Original Community Fire Fighter*, is designed to meet these requirements and made in three sizes,—300—350 and 500 gallon capacities. Each model and every piece of apparatus guaranteed to pass the National Board of Fire Underwriters' twelve-hour pumping tests.

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Invincible and Callahan Nozzles

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are in use throughout the country and giving unsurpassed service.

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You will find that it pays.

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The HENDERSON-AMES CO.
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To get this information just run down the list below and mail the coupon to us filled out with name and address and with the numbers that indicate the equipment in which you are particularly interested.

We will then notify reliable manufacturers of your interest in such equipment and request that they send you complete information. They will gladly do this and it will be a pleasure for us to help you in this way. So go to it! Help yourself!

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5 Aerial Trucks.
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8 Alarm Systems, Municipal Telegraphic.
9 Alarms, Thermostatic.
10 Asbestos Clothing.
11 Badges, Insignias, Buttons, etc.
12 Banners, Trumpets, etc.
13 Battery Jars.
14 Battery Zincs for Fire Alarm Batteries.
15 Bells, Fire Alarm, Municipal.
16 Body Equipments.
17 Boxes, Gongs, Reels, Registers, Fire Alarm.
18 Brakes, Air.
19 Brake Linings.
20 Brooms, Fire.
21 Building Materials, Fire Retardant.
22 Cable & Wire, Fire Alarm.
23 Caps, Firemens.
24 Chains, Non-Skid, Fire Apparatus.
25 Chassis for Fire Apparatus.
26 Chemical Engines and Tanks.
27 City Service Trucks.
28 Coats & Suits, Firemen's Quick Hitch.
29 Combination Chemical & Hose Cars.
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31 Cutting & Welding Equipment, Electric.
32 Deluge Sets.
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35 Extinguishers, Fire, Tetrachloride.
36 Extinguishers, Fire, Foam.
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June 25, 1926

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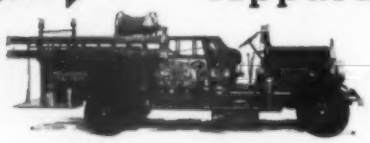

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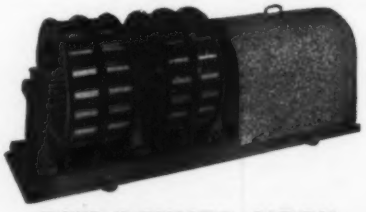

THE DENVER SIREN

Now used in 43 of the United States, Canada and abroad.
Motor driven on any electric circuit.

Write for Special Bulletin

Hendrie & Bolthoff Mfg. and Supply Co.
Denver — Colorado

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If not already on our regular subscription list to receive this magazine every issue, twice a month, we are sure you'll agree that you ought to fill out at once the blank below. It will bring you every issue for a year, 24 wonderfully interesting numbers for only $3—payable within 30 days after you receive our bill.

Name .....

Position .....

Address .....

Yes or No?

It's up to you!

Write Plainly and mail to Fire Engineering, 225 West 34th St., New York

"I'm glad to see you, Mr. Johnson"

Mr. Johnson is welcome because he is not merely another handshaker. He has always real news and definite ideas to contribute, and he brings to a conversation a fair-minded attitude and a keen intelligence.

He has a first-hand knowledge of the fields in which you are interested, and of their latest developments. He seems to be able to see things from your side of the fence, too, and often offers many a workable suggestion.

Many men who welcome such a caller are neglecting interviews of even greater helpfulness—interviews with many Johnsons instead of one. Can you afford to miss "regular appointments" with the A.B.P. paper or papers that cover your business?

Set aside—now—a definite time to go through your business papers carefully. You will find that it pays to set a time to go through every issue.

The membership of a publication in the Associated Business Papers, Inc. means that it conforms to the highest standards of editorial and advertising practice.

The editorial matter, written by experienced men who know your field and its needs, is measured by the standard: "Is it real news?" The paper is pledged, as all A.B.P. members are, to consider first the interests of the subscriber.

Readers can depend upon the character of advertising in an A.B.P. publication, and they cannot afford to neglect the advertising pages. Here, too, are many practical suggestions.

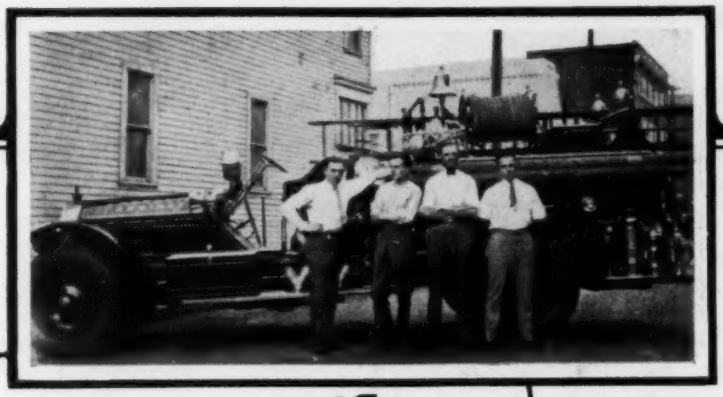
THE ASSOCIATED BUSINESS PAPERS, Inc.
Executive Offices: 220 West 42nd St., New York, N.Y.

A.B.P.

An Association of none but qualified publications reaching 56 fields of trade and industry.

The advertisers in this publication demonstrate by their presence here that they are awake to modern methods of selling as well as production—methods that cut costs and standardize operations.

FIRE ENGINEERING is the only fire journal that has membership in The A. B. P.



CITY OF CHEHALIS
WASHINGTON

A. G. Long, Inc.
Portland, Oregon.

Gentlemen:

Am writing you this letter to let you know how our big American-LaFrance pumper worked last evening.

I received a call from one of the Council at Winlock at about 8:30 P.M. that they needed help that the Veness Mill was burning up, so I told him we would be on the road in a few seconds. I drove the big pump myself and had three of my men with me, we went on the highway for five miles, then took the old dirt road the balance of the way. We started with about twenty cars following us, but when we arrived in Winlock there were no cars to be seen. We made the run from here to Winlock in twenty minutes flat, sixteen miles, and eleven of it was dirt road, with all the turns in it to make you think you were on a roller coaster, or a figure eight, and if it is permissible, I must say the old sport worked like a clock, it handled like a baby buggy and rode like a pullman. At no time were we in any danger. I thought she would skid on that dirt road, but she never made an attempt to skid.

When we arrived in Winlock, the whole town turned out to see what was coming. When we got in the middle of the town they flagged us down and told us that they had the fire under control, so we went down to the mill to see what had burned. What did we find? Fifteen lines of inch and a half hose in action, but the fire under control. The Fire Chief at Winlock sure did good work to stop the fire where he did, for she sure was in a bad place. They estimate about ten thousand dollars damage. I will send you a copy of the letter which I received from the Mayor of Winlock and citizens.

Our mayor also received a letter with a blank voucher, but we will make no charge for our services.

Yours truly,
(Signed) E. C. Kuehner.
Chief Fire Dept.

Sixteen Miles in Twenty Minutes

New Record Run for American-LaFrance

Fire apparatus that will run sixteen miles, eleven miles of the distance over dirt roads, in twenty minutes, is certain to meet that important requirement of all fire apparatus, namely, arriving at the fire without delay.

American-LaFrance has established unduplicated records for both road runs and endurance while pumping. That is why it should be in your fire department.

PUMPING CARS AERIAL TRUCKS — AMERICAN FIRE APPARATUS LA FRANCE — FOUNDED IN 1848 — SERVICE TRUCKS MOTOR CARS

AMERICAN-LaFRANCE FIRE ENGINE COMPANY, INC.

Branches — ELMIRA, N. Y. — Branches

New York · Boston · Atlanta · Philadelphia · Baltimore · Denver · Minneapolis · Los Angeles
Pittsburgh · Chicago · Dallas · CANADIAN FACTORY: TORONTO, ONT · San Francisco · Kansas City, Mo. · Portland

GOOD Fire Hose is Fire Protection Insurance!

No fire department can be more efficient than the hose in its wagons. Every experienced department man realizes that dependable fire hose is one of his mainstays in the continual battle against fire losses.

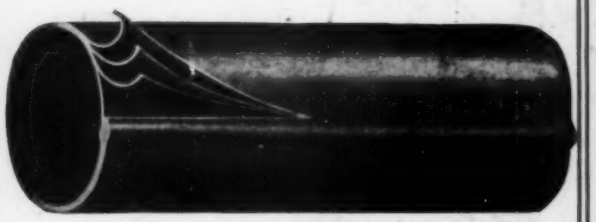
The purchase of fire hose is an investment—not just another expenditure. It means an investment in efficient, dependable fire protection.

Buy GOOD hose! Stop buying hose on a price basis alone. Often if but ten cents a foot were added to the purchase price of the hose that you are buying—you could invest in the finest hose on the market. Just ten cents a foot—and the life of the good hose will be twice to three times that of the cheaper grade.

For over fifty years Paragon and the other famous brands of Eureka manufacture have been recognized as the standards of fire hose quality and service. "Eureka" stays on the job 'til the job is done!

"Standardize on Eureka!"

The secret of Eureka Service lies in the Eureka Construction.



There is no finer rubber lining made than the four-ply, hand-made, lap-joined tubes that form the waterway for all brands of Eureka hose. Another factor of Eureka Fire Hose supremacy. From cover to tube, there is no better hose on the market than the famous brands bearing the Eureka trade mark.

This cross-section of Eureka four-ply, circular multiple woven Fire Hose shows the exclusive smooth interior construction. An extra ply of fine yarn woven in the valleys of the inner surface, levels off that surface of the fabric which comes into contact with the rubber tube—entirely eliminating the ribbing or corrugating of rubber linings, unavoidable with other constructions. This feature adds 25% to cover strength.

EUREKA FIRE HOSE

EUREKA FIRE HOSE MANUFACTURING CO.

50 CHURCH STREET — **NEW YORK CITY**

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BOSTON
CHICAGO
COLUMBUS
DALLAS
DENVER
DETROIT
KANSAS CITY
SYRACUSE
LOS ANGELES
MINNEAPOLIS
PHILADELPHIA
SEATTLE

TRADE MARK

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